Discases of Woman

Auther — Churchill's

1850

PREFACE TO THE THIRD EDITION.

In preparing this third edition for the press, I have thought it advisable to make considerable alterations. I have included in the one volume the diseases of pregnancy and child-bed, as well as those which occur in the unimpregnated state; so that within a small compass the practitioner will be furnished with a sufficiently extensive text-book of the maladies.

I have changed the collocation of the quotations, inserting them, or most of them, in the text, instead of leaving them at the foot of the pages as notes. This, I think, will render the perusal of the work less interrupted and more pleasant.

If these references and quotations should appear more numerous than necessary, I would beg the reader to bear in mind, that my object in writing the work was not merely, nor even principally, to inform him of my own opinions, or to record my own experience, but to lay before him, so far as I should be able, the entire knowledge we possess upon each subject, and to exhibit the opinions and practice of the highest authorities in the profession. I might, perhaps have obtained more individual credit had I written more in the first person; but it is scarcely a question whether my readers would have been equally benefited.

In this edition I have inserted several new sections and chapters; I have re-written such of the former ones as appeared to me defective; and I have added, I believe, all the information we have derived from recent researches.

A good deal of discussion has taken place lately as to the use and abuse of the speculum, and I trust the reader will bear with me whilst I say a few words upon the subject. I cannot but regard the speculum as a most valuable instrument in judicious hands. To its use we are

mainly indebted for our knowledge of certain diseases, for a more accurate diagnosis of others, and for a facility of treatment which nothing else affords. Of the information we obtain by means of it, and of its importance in local applications, I have, I trust, in the following work, given satisfactory proof. But, like other good and useful things, it may be abused. I fear that it has often been used improperly, unnecessarily, and from motives which ought not to influence the members of a liberal profession.

There are very few cases, indeed, in which I should feel justified in employing it with young unmarried women, and in no case ought it to be used unless the local symptoms are such as imperatively to require an inspection.

To make an examination with the finger or speculum, unless it be plainly necessary, is a flagrant breach of delicacy; and, in the case of young unmarried women, it is almost a crime.

But, on the other hand, if the case require it in the conscientious opinion of the practitioner, and if the disease be such as cannot be satisfactorily made out or treated without it, then its use is not only justifiable, but to reject it would be a blameable neglect of the means within our power for the relief of disease.

137, *Stephen's-green, Dublin,*
November 6, 1850.

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PRELIMINARY OBSERVATIONS.

1. Before proceeding to describe the special diseases of the female genital system, a few general observations on their pathology, diagnosis, and treatment will not be out of place.

First, then, as to the *pathology*. The *labia* may be attacked by inflammation, terminating in resolution, abscess, or ulceration. Lesions of nutrition are not uncommon: one or both labia may be covered with warts; large pendulous tumors occasionally grow from these parts, and now and then they are the seat of malignant fungoid disease. The inner labia may be the seat of inflammation and ulceration, or the follicles of the mucous membrane may become diseased.

2. The *vagina* is frequently attacked by inflammation, acute or chronic, by which its secretion is first diminished, then increased, and, perhaps, altered: ulceration may take place, and its calibre be reduced by cicatrices, or it may be partially or wholly closed by adhesions; the elasticity of its parietes may be diminished, favoring the displacement of the pelvic viscera, or it may participate in the malignant diseases of the uterus.

Inflammation attacking the vagina may extend to the subjacent cellular tissue, and give rise to an abscess between the vagina and rectum.

3. The diseases of the *uterus* may be divided into *functional* and *organic*. The *functional* disorders consist of those variations from normal menstruation, which are commonly described under the terms, amenorrhœa, dysmenorrhœa, and menorrhagia.

These disorders have one peculiarity in common, viz., that they are equally remote from the proper amount and condition of secretion, though in opposite extremes. Menstruation may be scanty, irregular, or altogether absent, (whether its place be supplied by vicarious uterine leucorrhœa or not,) or it may be in excess.

But this is not all the difference between them: the amount of pain is an important consideration. Menstruation ought to take place without suffering; in most cases there is a certain degree of inconve-

nience; in many, considerable pain; and in some, the anguish is very great.

The character of the excreted fluid varies in different cases: it ought to be of the color of venous blood; it is sometimes lighter; in others, of a dark color, resembling pitch, and possessing greater or less density than usual. It has at all times a peculiar odour, which sometimes becomes extremely offensive. In the healthy state it does not coagulate,* but in some varieties of menorrhagia, clots are discharged. Menstruation ought to occur every twenty-eight days, and continue three or four, but it may recur much more frequently, or continue much longer. A vaginal examination rarely reveals anything unusual in the state of the uterus; its density and temperature may be increased; the os uteri is more open than usual, and the cervix has a flabby feel, especially when the discharge is excessive.

These menstrual disorders may assume a sthenic or asthenic form: the former is more common with young women; the latter, when the activity of the sexual system has somewhat abated. The peculiar constitution of the patient often determines the character of the functional disturbance. The matter excreted appears to be of much less importance than the regular performance of the function, inasmuch as a vicarious discharge may supersede the natural secretion for some time, without much deterioration of health.

4. None of these disorders, when uncomplicated, have any tendency to run on into organic disease. We see them continuing for years, and yet leaving no pathological traces. Even when, as in menorrhagia, the loss to the system is so great as to bring on secondary attacks, which may prove fatal, there is no evidence of disease discoverable by a *post mortem* examination in the uterus or ovaries: they may be paler and more bloodless than usual, but that is all.

As to the proximate cause of the functional disorders: in many

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* This property has been usually considered to depend upon the absence of fibrine; and this opinion receives confirmation from the slowness with which putrefaction takes place in it. As the cause of putrefaction is assumed to be the presence of azote, and as the fibrine is the most highly azotised part of the blood, it was concluded, with apparent reason, that the absence of fibrine is the cause of the slow putrefaction of the menstrual secretion.

In the *British and Foreign Review* for July, 1836, however, there is a notice of the discovery of free phosphoric and lactic acids in the menses, by Dr. Retzius of Stockholm. He opposes the opinion usually held, as to the relation between putrefaction and the presence or absence of azote, and denies the fact of the menstrual blood containing no fibrine, believing that it is dissolved or modified by the free acids, so as to prevent its subsequent separation.

cases it depends upon the condition of the ovaries; in others, upon derangement of the circulation in the uterus; upon deficient or disturbed nervous influence, or upon the abnormal state of the lining membrane of the uterus.*

The local symptoms to which these functional disorders give rise are few, and often obscure: there is generally some pain or uneasiness in the pelvis, extending round the lower part of the abdomen and back, and sometimes down the thighs, and occasionally alternating with headach. In dysmenorrhœa, the pain is sometimes exceedingly severe. There is also, now and then, some sympathetic irritation of the bladder or rectum. A knowledge of the source from which the uterus and appendages are chiefly supplied with nerves, will explain the absence of some severe local symptoms, and, on the other hand, a due appreciation of Dr. Marshall Hall's important discovery of the reflex system will render the intimate sympathies of other organs intelligible. We are indebted to Dr. Tyler Smith for first applying these views extensively to the explanation of uterine physiology and pathology.

5. So much for the *functional* disorders of the womb. As to its *organic diseases*; we find it liable to attacks of inflammation of the lining membrane, and of the muscular and vascular tissues, followed by the usual consequences; induration, hypertrophy, softening, ulceration, abscess, and gangrene.

The veins and lymphatics may contain purulent matter, and the uterine cavity may be distended with air, fluid, or degenerated masses called moles and hydatids.

6. *Lesions of nutrition* also occur, and the most frequent result is the formation of fibrous tumors. These are of different consistence—either loosely fibrous, soft, and almost granular; or dense, with a fibrous or semi-cartilaginous structure, and occasionally containing portions of calcareous matter. They may be developed either immediately under the peritoneal covering, in the muscular tissue, or beneath the mucous membrane. It will be found, however, that their origin involves more or less of the uterine tissue. In progress of growth, they protrude into the abdominal or uterine cavity, and may assume the polypoid form. Their vascularity is seldom very marked.

7. The womb is subject to a formidable series of *malignant diseases*, such as fungous growths, ulcerations, and morbid depositions.

Fungus of the uterus is of different kinds. That denominated

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* The existence of a lining membrane is denied by Merry, Morgagni, Azzoguidi, Henle, &c., and doubted by Boivin and Duges, Ribes, Chaussier, &c., but admitted by almost all other anatomists. The functions it exercises, and the changes which take place in it, place the matter beyond doubt.

cauliflower excrescence in this country, and "*vivaces*" in France, appears to be nothing more than a congeries of vessels and their connecting cellular substance. Its malignancy consists in its obstinate reproduction after excision, and in the fearful hæmorrhage which accompanies it.

Other fungoid productions have been described,—some having a lardaceous texture when cut into, and others resembling fungus hæmatodes. All give rise to hæmorrhage; all make serious inroads upon the constitution long before they prove fatal; and the latter are liable to an unhealthy kind of ulceration.

That form of malignant ulceration called corroding ulcer is quite distinct from cancer. It resembles most the phagedenic ulceration of other parts. There is no morbid deposition at any period of the disease. The cervix uteri is almost always the part first attacked, and from thence, in defiance of the most active and judicious treatment, the ulceration spreads with varying rapidity to the body; and if life be not previously terminated, to the fundus The vagina participates in the disease, and perforation of the bladder is a common occurrence.

Carcinoma, or cancer of the uterus, according to Dr. Copland's excellent description, consists of "two distinct substances; the one hard, fibrous, and organised; the other soft, and apparently inorganic. The former composes the chief part of the diseased mass, and consists of septa, which are opaque, of a paler color than the soft part, unequal in their length, breadth, and thickness; disposed in various directions; sometimes forming nearly a solid mass; in other instances, a number of cells or irregular cavities, which contain the soft part. This latter is sometimes semi-transparent, of a bluish color, and of the consistence of softened glue; at other times more opaque, softer, somewhat oleaginous, and like cream in color and consistence."* The former is the cellular tissue in a state of induration and hypertrophy; the latter is the morbid secretion or deposition characteristic of the disease.

There are some variations from the ordinary proportions of the constituent tissues, and occasionally blood appears mixed with the softer matter; and these varieties have hence acquired different names—such as cephaloma, hæmatoma, encephaloid matter, &c.; but they do not differ essentially, and they run a similar course.

The carcinomatous deposition may take place, *first*, in the neck of the uterus alone—and perhaps this is the part primarily affected in most cases, owing, as Sir C. M. Clarke supposes, to the numerous sebaceous glands with which it is supplied: *secondly*, in the body of the uterus, the cervix being intact: *thirdly*, in both these parts at

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* Dictionary of Pract. Med. p. 283.

once: *fourthly*, in the cellular tissue connecting the uterus to the neighbouring parts, or in the small glands which are embedded in it.

The increase of bulk from the morbid deposition is often very considerable, even although ulceration may have proceeded so far as to cause death.

From the ulcerated surface an irregular fungus springs, extremely tender, and discharging a fœtid, unhealthy sanies. In some cases, though rarely, the ulceration precedes the deposition, which takes place as the disease advances:* to these the name of cancerous ulceration has been given, and to the others that of ulcerated cancer.

The former are much more rare; and in the instances which have come under my notice, the duration of the disease seemed prolonged, but the symptoms were the same as in ulcerated cancer.

8. The uterus is also subject to various *accidents*—such as rupture, displacement, &c.

The former occurs most frequently at the conjunction of the vagina with the cervix uteri, and is generally the result of narrowness of the upper outlet, and the violent propulsion of the child by the labor pains; or it may take place in any part of the uterus, as a consequence of disease; or, lastly, it may happen from closure of the canal of the cervix in old women, the accumulation of mucus in the uterine cavity, and the thinning of some part of the parietes and rupture, just as we see in abscess. Partial rupture, *i. e.* rupture of the serous or muscular tissue alone, has also been observed.

Displacements of uterus are consequent upon a relaxation of the usual supports of that organ, and an expulsive force more or less suddenly applied. According to the modifications of these two conditions, we may have inversion, retroversion, anteversion, and prolapse of the uterus.†

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* Andral. Precis d'Anatomie Pathologique, vol. i. p. 683.

† The following tables exhibit the frequency of disease, as it occurred at Guy's Hospital, London. They are given by my friend, Dr. Ashwell, in his Statistical Reports:—

INTERN CASES.		EXTERN CASES.	
Amenorrhœa	32	Amenorrhœa	80
cum Amaurosi ...	1	with Epilepsy ..	2
— Chorea ...	2	— Chorea ...	1
— Epilepsia ...	3	Carcinoma Uteri	66
— Hemiplegia	3	Vaginæ	1
— Hematemesi	1	Catarrhus Uteri	2
Carcinoma Uteri	39	Chlorosis	64
Carcinoma Vaginæ ...	4	Dysmenorrhœa	3
Catarrhus Uteri	1	Hydatids of Uterus ...	2

9. The FALLOPIAN TUBES undergo morbid changes similar to those which take place in the uterus; but the affections to which they are most subject are—1. Obliteration of their canal, partially or wholly. 2. Distension by serous, purulent, sanguinolent, tubercular, or encephaloid matter. 3. Adhesions to the uterus, ovaries, or abdominal parietes, by which means the collection of matter alluded to is sometimes evacuated.

10. Some additional light may, perhaps, be thrown upon these pathological conditions and the period of their occurrence, if we briefly consider the anatomical changes which the uterus and appendages undergo at the great epochs of human life, and the predisposition thence arising to certain diseases.

Before menstruation commences, the uterus possesses a very dense structure, with a supply of vessels and nerves sufficient for its nutri-

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Tables continued.

INTERN CASES.

Catarrhus Vesicæ	1
Cauliflower Excrescence ...	1
Chlorosis	25
Dysmenorrhœa	7
Fungoid Excrescence ...	1
disease of ext. genitals	1
Hydatids of Uterus	2
Hydrops Ovarii	23
Hysteria	12
Hysteritis	1
Induratio Oris Cervicisq. Uteri	14
Inflammatio Oris Cervicisq. Ut.	21
Irritable Uterus	9
Leucorrhœa	21
Menorrhagia	15
Polypus Uteri	7
Procidentia & Prolaps. Uteri	39
Prolapsus Vaginæ	4
Vesicæ	3
Prurigo pudendi	1
Retroversio Uteri	1
Tumor Ovarii	13
Uteri	23
meatus Urinarii ...	6
Vicarious Menstruation ...	2

EXTERN CASES.

Hydrops Ovarii	9
Hysteria	62
Induratio Oris Cervicisq. Uteri	21
Inflammatio Oris Cervicisq. Ut.	16
Irritable Uterus	10
Leucorrhœa ...	227
Menorrhagia	61
Procidentia & Prolaps. Uteri	119
Vaginæ	5
Vesicæ	7
Retroversio Uteri	2
Tumor Ovarii	27
Uteri	7
Vaginæ	3
meatus Urinarii ...	6
Vicarious Menstruation ...	3

—*Guy's Hospital Reports*, No. 1, 4–6.

tion, but not more. Its substance is of a light flesh colour, and its lining membrane pale. The ovaries are small, pale, and undeveloped.

Up to this period, diseases of the internal organs are extremely rare, almost the only abnormal states being errors in development or growth; in other words, monstrosities by defect or excess.

11. But if we examine the womb *during menstruation*, we shall find that a considerable change has taken place. It will be found to have increased in size, and to be of a softer and more spongy texture; the vessels are enlarged and carry more blood, a corresponding space having been provided for them in the interstices of the uterine fibres. The nerves, too, are more perceptible. The mucous membrane is of a florid red colour, and covered with the menstrual discharge.

It is true, that during the intervals of menstruation these peculiarities are softened down; but the essential characteristics remain, and a foundation is laid for a new train of pathological phenomena.

After this occurrence, the patient becomes liable to various functional disturbances and local congestions: if the latter be excessive, a discharge of blood may take place. Neuralgia of the uterus, hysteria, leucorrhœa, and inflammation, with its consequences, may also be included in the list, although the latter is more frequent at a later period. The sympathetic influence which the establishment of this function exercises over other and distant organs, ought at least to be mentioned as important in the history of their morbid states. The brain and nervous system, the stomach and intestinal canal, are exposed to new and energetic influences, which, when abnormal, may give rise to disease, or the phenomena of disease, in those organs.

12. A further change takes place *after impregnation* and *during gestation*. The mucous membrane lining the uterine cavity, which, in a healthy subject, and under ordinary circumstances, secretes but a moderate quantity of fluid, now becomes more vascular, and is quickened into increased action for the production of the membrana decidua. The substance of the womb loses its peculiar density, and the interlacing of its fibres becomes very evident,* the interspaces being greatly enlarged for the accommodation of the blood vessels, which (especially at the part to which the placenta is attached) are very much increased in size, and carry many times the ordinary quantity of blood. The lymphatics and the nerves are also proportionably developed.

The fallopian tubes and the ovaries, more especially the one from which the germ escaped, are more vascular than usual, and increased in volume.

The principal uterine disorders which are observed *during gestation* are in accordance with the anatomical condition of the organ, and con-

* Medico-Chirurgical Transactions, vol. iv. 335.

sist of disturbances of the circulation—as congestion, hæmorrhage, inflammation, &c., of neuralgic pains, and spasmodic contractions of the uterine fibres.

After a safe delivery and a normal convalescence, these peculiarities of course lose their prominence, but the womb is not left in the same state as before conception, and every succeeding pregnancy develops more strikingly these changes. The vessels which were so much elongated become tortuous,* their coats are thicker and their calibre greater than natural. The nerves also, though not so large as during pregnancy, remain of a considerable size, and tortuous. The substance of the uterus does not recover the same density as previously, unless at a considerable interval after delivery.

Now, the diseases which prevail from the period when *childbearing commences until it is concluded* answer exactly to these anatomical peculiarities. During this time there is much organic activity, the amount of blood in circulation is very considerable, and the nervous influence is powerful; we find, accordingly, that inflammation of the lining membrane, and of the substance of the womb is much more frequent than at any other period. Moreover, these circumstances would lead us to expect both hæmorrhages and neuralgia, and they are frequently observed. During the earlier portion of the time allotted to childbearing, we seldom see ulceration to any great extent, and lesions of nutrition are not very common. Towards the latter part of this period, we may perceive a gradual transition from diseases of a sthenic to those of an asthenic character, corresponding to the anatomical changes effected in the organ.

13. In *elderly women* the following peculiarities are observed in the uterine system.

The vessels and nerves have diminished in calibre, and the coats of the former are occasionally found diseased. The lining membrane of the uterus is thicker than at an earlier age, and in general pale. Its substance has acquired nearly its primitive density throughout, and even more at the cervix, having, in fact, a semi-cartilaginous character. Its cavity is reduced in size, and the canal communicating with the vagina is nearly, and in many cases quite obliterated.

The vagina and uterine ligaments having been so often put upon the stretch, are greatly relaxed. The ovaries are atrophied, and their coats so shrivelled that they appear divided into small lobes.

In accordance with these changes, we find active inflammation much more rare, but destruction of the substance much more frequent

* It is a remark, I believe, of the late Dr. Parry of Bath, that the tortuosity of vessels is always the result of some previous condition, or of some function already fulfilled.

Hæmorrhages take place, but of a more passive character. The pathological phenomena observed at the cessation of menstruation, arising from disturbed nervous influence, irregular circulation, &c. are followed by lesions of nutrition, and malignant growths and depositions.

An accumulation of mucus in the cavity, the canal through the cervix being obliterated, may ultimately lead to rupture of the uterus; and the relaxation of the natural supports of the organ readily admits of prolapsus.

14. I have thus, in a cursory way, pointed out the different lesions to which the uterine system is obnoxious; and by tracing the anatomical changes which are effected at the great epochs of female life, I have shewn that they correspond accurately to the character and succession of the diseases which we observe in practice. The subject possesses great pathological interest, nor is it devoid of practical use; inasmuch as by anticipating the maladies to which each period is liable, we can use such means as experience may suggest, to prevent or to mitigate them.

It is unnecessary to do more than merely allude to the influence of uterine disease upon the general health. Whether the due performance of the functions of these organs adds to the health of the individual or not,* it is quite clear that, during the period of activity of the sexual system, its derangements are most injurious, and that in proportion to the extent of the mischief. The stomach and intestines, the nervous and vascular symptoms, exhibit exquisite and extensive sympathy with diseases of the uterus and ovaries.

It is remarkable, however, that after the cessation of menstruation, certain diseases may continue for a long time, without giving rise to any symptoms.

15. The *causes* of disease in the sexual system of the female are—

1. Those which give rise to disease in other organs, such as cold, epidemics, disordered bowels,† &c. &c. 2. Those which are connected with the natural and healthy performance of its functions; *e. g.* child-bearing, &c. 3. Injuries from excessive use, or occasionally from the more moderate exercise of certain functions; *e. g.* diseases of the vagina and cervix uteri, from excessive coition, &c. 4. Certain anatomical or pathological changes; *e. g.* the closure of the canal through the cervix uteri, &c.

16. The *diagnosis* of uterine disease is of great importance, and requires both experience and skill.‡

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* Edinburgh Med. and Surg. Journal, vol. vi. p. 175.

† Medico-Chirurg. Review, July, 1838, p. 244.

‡ Dr. Ashwell's excellent paper in Guy's Hospital Reports, No. 5, p. 410; and Dr. Simpson's papers.

Information for this purpose is derived from three sources: 1. From the symptoms. 2. From a manual or tactile examination. 3. From a visual examination with the speculum. A few words will explain the peculiarities and advantages of each.

I have already mentioned the paucity and obscurity of the local symptoms in functional disorders of the uterus; and although in the organic diseases there can be, perhaps, but little doubt as to the locality of the affection, still we must often be uncertain as to its character, and unable to distinguish one from another, or the uterine from the ovarian.

For example—deep-seated pain accompanies irregular menstruation, inflammation, and ulceration; hemorrhage may result from fungous growths, polypi, or ulceration, and may occur independently of them; increased discharge may arise from inflammation of the lining membrane, or from simple ulceration; and fetid discharges may proceed from corroding ulcer or from cancer.

It is true that a careful collation of all the symptoms in an individual case will sometimes clear up the difficulty; but the majority of the errors in diagnosis (and they are numerous) arise from trusting too much to this source of information, and neglecting to combine it with others more certain and more fruitful.

In all investigations into the symptoms of uterine disease, we should, first of all, localise the complaint as far as possible, and then trace its effects upon the different functions. The discharges should be carefully examined, and their relation to the menstrual secretion ascertained; that is to say, whether they occur about the same time, or during an interval; whether they increase or diminish before or after menstruation; whether the colour varies from what is usual; whether they possess an offensive smell; and if the discharge be sanguineous, whether it commenced at a menstrual period; whether it be accompanied by pain or bearing down, &c.

These points should be cleared up as far as possible, and even then there will always remain much that is doubtful.

But as if to compensate for the insufficiency of the ordinary symptoms, we are possessed of other means for acquiring a knowledge of these complaints, which, combined with those just noticed, will in most cases, if carefully exercised, leave little room for mistake.

17. I allude to the *second* means of diagnosis, a manual or tactile examination. The extent and accuracy of the information thus obtained is very remarkable. By the "*toucher*" we are enabled, with considerable certainty, to decide the question of functional or organic disease; we can ascertain the degree of heat and moisture of the vaginal canal, the character of any discharge, the state of the cervix uteri and the lower part of the body; we can discover the presence of ulceration, of lacerations, and of displacements, with the amount of

injury: we can detect the existence of scirrhus, cancer, or of morbid growths; and by combining internal with abdominal manipulation, we may throw light upon the distinction between uterine enlargements, pregnancy, and ovarian disease. These and many other valuable and practical observations result from this mode of investigation.

A few words upon the mode of making a vaginal examination may be useful. If the disease be one involving or supposed to involve the position of the pelvic contents, it will be necessary that the patient should be in the upright position; it is preferable, (though not necessary) in almost all cases, as the parts come better within reach. The labia are *first to be separated, and the fore-finger (previously well oiled) is to be passed from behind forward, until it enters the vagina.* It is then to be passed from before, backwards and upwards, until it reaches the os uteri; taking cognizance, by the way, of the circumstances I have before noticed.

When at the os uteri, we can ascertain any morbid changes there, or affecting the body, and also the state of the upper part of the pelvis. When we have obtained all the information we can, the finger may be withdrawn. The greatest gentleness should be used, and the examination should be repeated as seldom as possible. It is rarely necessary to introduce more than one finger. In cases where the bladder is implicated, a catheter introduced into that viscus will aid our investigation. An examination should not be attempted too soon after great exertions: it will not be borne during the acute stage of inflammation of these parts, and in some cases we must be cautious how we receive its evidence.

The principal points to which our attention should be directed, when making the examination, are, the state of the vagina, as to calibre, heat, moisture, and sensibility; the condition of the pelvic cavity, whether unusually empty or filled, and by what; the elevation of the os uteri, its patency, sensibility, and integrity; the density of the cervix, its sensibility, and freedom from morbid growths or ulceration; the position and volume of the womb, its mobility and sensibility.

The nature of the discharge may be ascertained on the withdrawal of the finger. If there be a breach of surface, its extent should be ascertained, and the co-existence of morbid deposition investigated. If there be hæmorrhage, the condition of the fundus and cervix uteri is of importance, and should be carefully investigated; and also whether there be any fungous or polypous growths.

18. I have alluded to *abdominal manipulation* as an adjunct to the "*toucher*;" by it we are enabled to estimate the size and shape of a uterine or ovarian tumor, to conjecture (by the degree of mobility)

the presence or absence of adhesions, to appreciate density of structure, to detect the existence of inflammation, &c.

We may add to these an examination "*per rectum*," from which very valuable information is often derived, and doubtful points cleared up. The state of the body and ligaments of the uterus is thus brought under our observation, the size of a morbid enlargement may be better estimated; the distinction between uterine and ovarian disease more clearly made out; existence of pelvic tumors, of abscess between the vagina and rectum, and the limits of each, can be more thoroughly investigated.

We have seen that by the touch, in connexion with the local symptoms, we can obtain information on all points except that of colour; and the accuracy of the knowledge so acquired is scarcely, if at all, inferior to that obtained by sight. It is very true, that a delicate sense of touch, and much experience, is necessary to the attainment of this degree of perfection; but it is equally certain, that perseverance in availing ourselves of every opportunity (both on the living and dead body) will ultimately be crowned with success.

19. This deficiency in our means of diagnosis, (viz. the not being able to see the part affected,) is to a great extent supplied by the use of the *speculum*, to which we undoubtedly owe much of the recent extension of our knowledge of uterine and vaginal diseases.

There are, however, very considerable difficulties in the way of its use becoming common. It requires greater exposure, and is more offensive to feminine delicacy than examination by the finger. In some cases it is much more painful. The information it affords is also more limited, and it cannot always be employed.

Dr. Ashwell observes, "Valuable as is the speculum, its use has been indiscriminately and unnecessarily urged. In slight cases of uterine irritation and leucorrhœa, its employment is prejudicial." "There are circumstances which entirely forbid the employment of the speculum. In very young and very old persons, its introduction is difficult, and sometimes altogether impossible, without laceration." "Steatomatous tumors occupying the walls of the vagina, ovarian growths in the recto-vaginal septum, polypi, deep ulcerations of the vagina or neck of the uterus, large cauliflower excrescences or bleeding fungi, all contra-indicate the use of the speculum. When the neck is inflamed or much congested, or when the vagina is excessively sensitive, the introduction of the speculum should be deferred till these various morbid conditions are alleviated." *

It enables us to ascertain accurately the length and thickness of the

* Guy's Hospital Reports, No. 5, p. 429.

cervix uteri,* to detect variations from the natural color of the mucous

* A description of the state of the neck of the uterus before and after impregnation, as observed by the speculum, was published by Dr. Marc d'Espine, of Geneva, in the Archives Generales de Medecine for April, 1836, and as it throws considerable light upon the first steps in all pathological investigations, (i. e. a knowledge of the natural condition of parts,) I shall offer no apology for translating the most important portion of the memoir. "The cervix uteri, examined by the speculum, in healthy females who have never been pregnant, resembles a small nipple, having a greater length than breadth, deeply situated, and somewhat above the axis of the vagina. The orifice is round or triangular, its vertical and horizontal diameters being always equal. The measurements of the neck are pretty accurately as follows: the diameter of the base of the cervix is from 6 to 9 lines (12 lines make an inch of our measure,) the length of the neck from 8 to 10 lines, and the diameters of the orifice one or two lines at most. There are some exceptions, however, for out of 29 females—seven having been pregnant—who were examined one or more times with the speculum, 22 answered to the description already given, and 7 differed from it; 4 of them having the cervix larger, and 3 having it less prominent or entirely flattened."

"In two of them, the orifice, instead of being round, was triangular, and resembled a slit, but much smaller than is usual after bearing children. Age alone appears to have very little influence upon the dimensions of the neck of the uterus, for among the seven cases of exceptions to the ordinary rule, but one was more than 30 years old. whilst among the 22, there were three who had exceeded that age. On the other hand, a great change takes place after bearing one or more children at full term: in the first place, the cervix is increased in volume, and more or less flattened; so that the diameters of its base are always greater than its perpendicular length. It has also lost its mammellated shape, and that form of orifice which was the exception in the virgin uterus is now the rule; it is almost always linear, very rarely indeed round or triangular. The length of the transverse fissure varies, but it is never less than three lines, and it may be from six to eight; in one case it measured an inch. There does not appear to be a great difference between the cervix uteri of those who have borne many children and those who have had but one; in the former, the neck is somewhat more voluminous, and the orifice larger. In females who have conceived and been delivered prematurely, the change in the os and cervix uteri will be found to accord pretty much with the period of delivery; after the fifth or sixth month it will nearly resemble the same organ in primiparous females: before that

membrane,* slight erosions which might be passed over by the finger, elevations on the cervix uteri or walls of the vagina, too little raised to impress the sense of touch; and we are enabled to discover the color of the surface of an ulcer. It will also confirm many characters recognised by the touch. On the other hand, we must be careful that we do not mistake for morbid changes those appearances which are caused by the instrument itself. For instance, pressure on the outer end of the instrument may change the elevation and position of the uterus, and produce swelling and puffiness of the cervix.

There can be no doubt of the great value of the speculum, both for the detection of disease and the application of remedies; but I fear that its employment has been too indiscriminate, and that injury, beyond the violation of delicacy, has not unfrequently been occasioned by it. It should never be used if it be possible to avoid it, in virgins: or when there is any alteration of tissue, involving its greater liability to laceration, and as rarely as possible with nervous women.

20. Several species of speculum have been invented. I shall notice but a few.

For the purpose of examining the parietes of the vagina when not particularly tender, I have had one made which answers the purpose very well. It consists of a metal tube of sufficient diameter to keep the vagina tolerably distended, with the inner end closed and rounded,

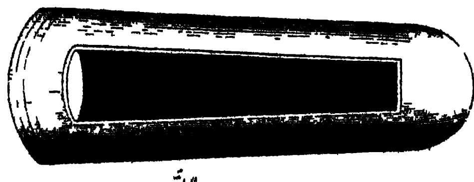
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period, but little alteration will be discovered. The diameter of the orifice in both cases is very small."

"In three women who were pregnant, the parts presented the following characteristics when examined by the speculum: the cervix was more or less enlarged, it was soft, and the lips swollen: in two, the orifice was so dilatable, that a tolerably large sized bougie could be introduced. This latter peculiarity is important, since it never occurred in 77 women who were not pregnant. There still remains one observation as to the value of the notched or sinuous state of the os uteri, and the indications to be drawn from it. By examining the cases in which it occurred, we arrive at the conclusion, that in general it is only found in those females who have borne many children; but there are primiparous cases in which we meet it, where the labor has been accompanied with difficulty, violence, or accident."

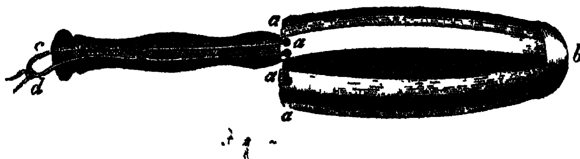
* "In health the cervix uteri is externally of a pale color, having the aspect of polished skin; and it is easily distinguished from the lining membrane of the vagina, which, from its different structure and greater supply of blood, has a much deeper tint of red. These parts are usually covered with a thick mucus; a fact of importance, as if it be not removed by lint or a soft brush, abrasions or ulcerations, being thus obscured, must be overlooked."—*Dr. Ashwell. Guy's Hospital Reports*, No. 5, p. 429.

and a fenestrum extending nearly the whole length of the speculum.



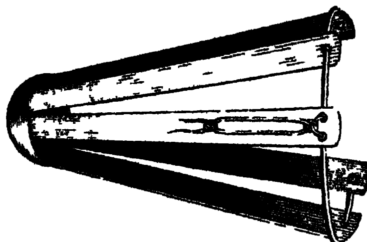
It is introduced without much difficulty, and by turning it round, every part of the vaginal surface can be successfully examined.

Mr. Beaumont, of London, has described a new *speculum vaginæ*, consisting "of five steel blades (*a a a a*), each three inches long, fixed round two-thirds of a hemisphere (*b*), of rather more than one inch in diameter; when unconfined, they diverge so as to form at their unattached extremities a portion of a circle of three inches in diameter. In the centre of the hemisphere (*b*) there is a hole to receive a short screw fixed at the extremity of the handle (*c*).



"Before introducing the speculum, the blades are to be drawn together by means of the string (*d*), a loop of which is caught in the peg (*e*) of the handle. When the instrument is passed fairly into the vagina, which should be done slowly with a very slight rotatory motion; the string (*d*) should be raised from off the peg, and the blades suffered gradually to expand. The handle (*c*) is then to be unscrewed and withdrawn, and the speculum will be left as it is seen in the second plate, giving an uninterrupted view of nearly one-third of the parietes of the vagina."*

* Medical Gazette, vol. xx. p. 122.



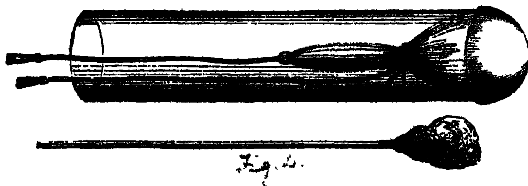
I prefer the fenestrated speculum before described, as being less complicated, and of more extensive application.

The *speculum uteri* may vary in form and dimensions. Some are cylindrical, others conical. Until comparatively recent times, the speculum uteri used in these countries consisted of a conical tube of metal, sometimes entire, sometimes divided into two blades, so as to admit of dilatation when introduced. The inner surface should be polished, and an obturator fitted to it to facilitate the introduction.



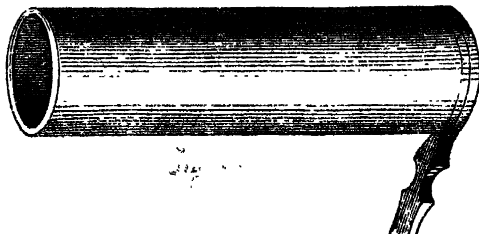
This (formed of metal or of glass) is the speculum used by Lisfranc, Recamier, &c. The conical form is manifestly an objection, for it neither facilitates the introduction, nor the view of the parts when introduced; and it is inconvenient, inasmuch as the widest part of the instrument is thrown into the narrowest part of the vaginal canal.

I believe Mr Fenner was the first to propose a cylinder of equal diameter instead, with an additional improvement.



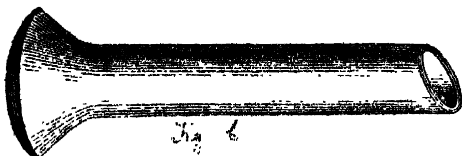
He observes:—"For the purpose of using a tube of the requisite size with facility, and without pain, I attach an air cushion in such a manner, that its soft elastic projection might previously produce dilatation, and, by overlapping, might protect the parts from the pressure of the edges of the tube, as seen in the accompanying sketch. Small bladders, or the crops of poultry, partly distended with air, and disguised by being stained with orchel, answer the purpose of the cushions, and can readily be procured. The cushion is formed by twisting the depending portion of the bladder, so as to force the air into its superior part, and then tying it with a silken cord in a slip knot, leaving the end long enough to extend below the bottom of the tube. When fairly introduced, the air is to be evacuated by pulling the cord, and the cushion may then be removed."

Some time ago, I caused a speculum to be made of metal, but instead of an air cushion, I had the top of the inner end turned over, so as to avoid the contact of an edge with the orifice of the vagina, and I found it to answer very well.

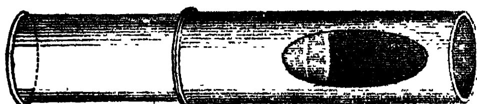


Dr. Fergusson has greatly improved the cylindrical glass speculum by covering it externally with a brilliant metallic coating, and this again with a thin layer of india rubber. The reflecting power internally is much increased, and the instrument is much strengthened; so

that there is but little danger of its breaking, which has happened with the plain glass speculum.



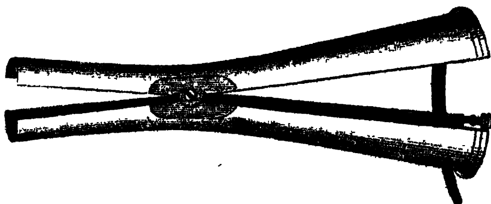
Dr. Protheroe Smith has invented a speculum, by which a visual and digital examination can be made at the same time. It consists of two cylinders, the outer of metal, and the inner of glass, and in the former of these there is a fenestrum. When the instrument is introduced, the inner speculum is partially withdrawn, and the finger passed into the vagina posteriorly, and through the fenestrum can reach the cervix uteri.



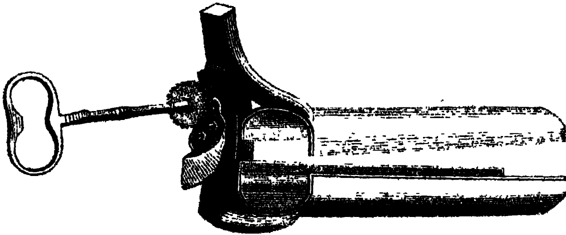
The plain cylindrical specula are the best when the os uteri is to be scarified, as the blood escapes through them at once.

In order to facilitate the application of leeches, an obturator is used, fitting tight like a piston, but pierced so as to allow the escape of air. With such an instrument, it is easy to push up the leeches to the os uteri, and by leaving it in the cylinder, to prevent their escape.

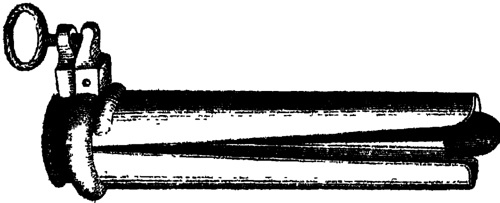
The bivalve speculum of M. Jobert of Paris consists of two half cylinders, joined together by a hinge on one side, about one-third distant from the inner end of the instrument. When introduced, as the hinge passes into the vagina, the pressure of the orifice above the hinge expands the inner extremity.



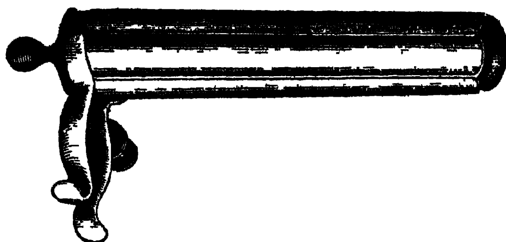
Madame Boivin's speculum consists of two half cylinders joined at their outer extremities to transverse limbs of brass, the one hollow and the other solid. The solid part passes into the hollow limb, and is moved backwards and forwards (thus opening or closing the blades of the speculum) by a small wheel with teeth, turned by a key.



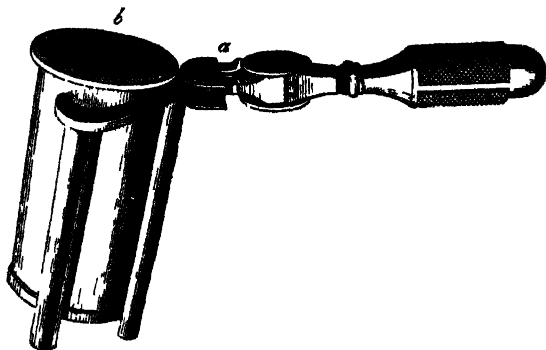
Mr. Coxeter's bivalve speculum is a very useful one; the two blades are separated by a screw at the outer end, by which the expansion required can be regulated and maintained.



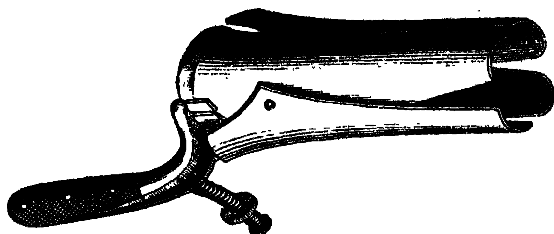
I procured some time ago a three-bladed speculum; but who invented it I do not know; the third blade folds over the others when the instrument is closed, but when the bivalves are expanded, the third blade covers the space between them, and forms a complete cylinder.



The speculum made by Mr Weiss consists of two parts, a dilator and a cylinder The dilator has three blades, which are expanded by a peculiar arrangement at the joint of the handle (*a*) and when by this means the vagina is sufficiently dilated, the speculum (*b*) is introduced between the blades



M Ricord uses one of a simpler construction, it consists of two or four semi-cylindrical blades, joined at a short distance from the outer extremity When closed they form a cone, but by closing the lower end by means of the handles when the instrument is introduced, the inner extremities are widely expanded



It is an extremely useful one, as it may be adapted to a vagina of any calibre, and by removing one blade, the operator is enabled to ascertain the state of the mucous membrane of the vagina.

Any of these specula may be safely used by a skilful hand. It is absolutely necessary to have them of different diameters and of different lengths. I prefer Ricord's four-bladed speculum for minute investigation, or Coxeter's bivalve; but, for the application of caustic or leeches, or even for subsequent examinations, Fergusson's glass speculum, or the three-bladed cylindrical speculum, is as good, if not better.

When about to examine with the speculum, we ought always to be provided with a long pair of dressing forceps and lint, in order to remove any mucus or blood which may obscure the surface of the cervix uteri.

12. The mode of using the speculum is as follows: the patient may be placed on her hands and knees: or on her side or back, with the hips down to the edge of the bed; and the labia being carefully separated, the point of the instrument, well oiled, is to be introduced into the orifice of the vagina, pressing towards the perineum, and directed backward and upwards. When it has penetrated four or five inches into the vagina, the blades may be separated, the obturator, (if there be one,) withdrawn, and a light brought to the outer end of the instrument. The parts at the inner end will then be distinctly visible, and their condition can be ascertained.

If the cervix be not exactly at the inner end of the speculum, it must be withdrawn a little, and passed up again in a somewhat different direction, until the object be attained.

When the examination is ended, care must be taken not to injure the vagina, by the too sudden withdrawal of the instrument when widely expanded: we must also take care not to include hair or mucous membrane in the joints of the instrument.

13. My friend, Professor Simpson, has added a new instrument to our previous means of diagnosis, and one which enables us to take cognizance to a certain extent of the condition of the cavity of the womb. The *uterine sound* consists of a thin stem of German silver, set in a wooden handle, and flexed at the opposite extremity at an angle to correspond with the cervix of the uterus. It is divided into inches, and has a little elevation about two and a half inches from the point, to mark the normal depth of the uterine cavity. When introduced to the upper part of the vagina, and the point turned forward, it will correspond very nearly to the os uteri, and, with a little management, may be passed through that orifice and to the fundus uteri. By its assistance we can detect any narrowing of the canal of the cervix, any deflection from the direct line, any obstacle in the cavity, any undue tenderness of its inner surface, and any degree of immobility of the uterus. It will aid us to detect fungous or polypous growths from the internal surface, retro-flexions or ante-flexions, and in some cases enable us to decide whether an abdominal tumor is ovarian or uterine. At the same time, it is an instrument with which much mischief may be done, and, therefore, its use requires caution and gentleness. The uterus, even in a state of health, is by no means insensible, but may become very sensitive from disease, so that the use of the uterine sound is occasionally followed by severe pain.

Further, it is quite possible so to dilate the os uteri and the canal of the cervix, as to obtain a tolerably correct examination of its cavity. Professor Simpson employs for this purpose a series of sponge tents, each one succeeded by a larger one until the amount of dilatation we desire is attained. Dr. Protheroe Smith has an instrument by which he dilates the cervix, resembling that used for seizing and crushing the stone in lithotrity. I prefer the sponge tent, as being safer and less irritating, and I think more effectual.

This dilatation of the os uteri is of great value in many cases, (for example, in intra-uterine polypi) which are thus brought within reach.

14. As to the *treatment* of these diseases, we have comparatively few internal medicines which act directly and certainly upon the uterine system. Some there are which act as emmenagogues, as iron, strychnine, &c. others diminish or suppress excessive secretion, as ergot, indian hemp, copaiba, acetate of lead, &c.

Calomel and opium exert a remarkable power over uterine inflammation, and calomel alone in small doses will occasionally stimulate the absorbents, so as to remove effusions, as in ovarian dropsy. Hydriodate of potash has latterly been found useful. Dr. Ashwell has given it in hard tumors of the uterus, with the effect of decidedly diminishing their volume.

Arsenic* has been tried with success in menorrhagia and cancer

* Med. Chir. Trans. vol. xxi.

uteri by Mr. Hunt, although in Dr. Fothergill's hands it proved rather injurious than beneficial.*

But although we have few general remedies of direct power, we are more amply supplied with the means of local treatment.

Cupping the loins, or leeches to the vulva, anus, or over the pubis, exert a decided controul over uterine disease. And of late years blood has been abstracted from the cervix uteri by means of the speculum. This may be effected either by leeches or by scarifications.† It has been found of great value in dysmenorrhœa, congestion of the cervix uteri, irritable uterus, simple ulceration, &c.

By the same means caustics, or even the actual cautery, may be applied to the part affected, without injuring the vagina. I have repeatedly thus applied nitric acid, butter of antimony, nitrate of silver, caustic, tincture of iodine, &c. in fungous growths, ulceration, excoriation, and inflammation of the cervix, with great benefit.

In diseases of the vagina and cervix uteri, injections may be thrown up by a syringe:‡ or conveyed to the part by means of a curved glass tube, as recommended by Dr. Montgomery. Solutions of alum, sulphate of copper or zinc, acetate of lead, nitrate of silver, &c. or astringent decoctions, may thus be directly applied to the part affected.

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* "In any acute affections of the uterus, arsenic must be pernicious; and as to its exhibition in scirrhous or chronic diseases of this viscus, I conclude from the experience I have had, that it affords no benefit; and as it is a mineral of dangerous powers in unskilful hands, it ought to be interdicted in the complaints I have described."—*Dr. Fothergill's Essay*, *Mem. of Med. Soc. of London*, vol. v. p. 28.

† Fenner. *Lancet*, Feb. 8, 1840.

‡ Dr. Cliet suggests the use of a simple instrument which he has contrived for this purpose, and which he has employed with much advantage in several cases of ulcers and other painful affections of the neck of the uterus. "The *appendix cæci* of a sheep, prepared for this purpose, is fixed to one end of a caoutchouc canula, to the other end of which is attached a moveable *pavillon*. The gut is easily introduced empty by means of the canula, through which an injection can then be easily thrown up to the cervix uteri. Several punctures having previously been made into the '*cul de sac*' of the gut, the injection oozes slowly through them, and is thus applied directly to the diseased surface. The instrument may be retained in the vagina by means of a cincture round the body, and elastic side tapes. The injections which M. Cliet has generally used are solutions of the acetate of morphia, of extract of hemlock or of belladonna, and occasionally of the nitrate of silver, oxymuriate of mercury, &c. He recommends that they should be used for the space of one or two hours at a time, and, if possible, twice or thrice daily."—*Journ. des Connoiss. Med. Med. Chir. Review*, July, 1839, p. 222.

In milder cases, injections of warm or cold water may be advantageously used.

Injections of various fluids into the uterine cavity have been recommended, and have been followed by benefit in some cases, and by very serious and even fatal results in others. If used at all, which is very questionable, a very small quantity of fluid should be employed, and as little force as possible in the injecting it.

Considerable local influence may be produced by medicated pessaries of various kinds, which have been too much neglected by modern physicians, or by means of medicinal substances formed into balls with lard and wax, which may be introduced and left in the vagina. Professor Simpson is in the habit of thus using belladonna, mercury, iodine, &c. and I can also bear my testimony to the value of remedies thus administered.

M. Fleury has read a memoir lately on the value of the cold douche in uterine diseases. His conclusions are as follows:

1. Cold douches will not cure uterine ulceration directly.

2. They are capable of inducing a resolution of engorgement and hyperthropy of the uterine neck, however chronic and rebellious to treatment they may be.

3. In favoring the resolution of the hypertrophied uterine tissue, cold douches assist materially in causing cicatrization of ulceration.

4. The cold douche will also restore several of the displacements of the womb for which mechanical contrivances have been required, and becomes in this manner a means of removing sterility.

5. By giving tone to the uterus, and to the system in general, they prove a prophylactic against abortion.

6. They are the best remedies for pruritus of the vulva and vagina.*

In uterine hæmorrhagies, when the application of cold is desirable, and we fear to use vaginal injections, the impression of cold may be completely and safely produced by enemata of cold water.

The external use of cold water is highly beneficial: a daily use of the "*bidet*" should be recommended to all married women, and especially during pregnancy. I have frequently found the pain and weakness of the back, so often complained of, completely removed by this simple practice. It has also considerable power in partial descents of the uterus, by restoring the elasticity of the vagina.

Counter-irritation to the sacrum is another valuable remedy. It may readily be effected by blisters or moxas.† The blistered surface may be dressed with simple or medicated ointment.

* Gazette Med. de Paris, March 11th, 1849.

† A delicate mode of applying a moxa, by means of bands of bibulous paper, imbued with chromate of potash, has been proposed by M. Jacobson, and introduced into practice by French physicians.

Anodyne plasters (opium and belladonna, &c.) to the sacrum, are of great service in neuralgic affections of the uterus.

After these general observations, I shall now proceed to the special diseases of the genital system in the female.

PART I.

DISEASES OF THE EXTERNAL ORGANS OF GENERATION

CHAPTER I.

DISEASES OF THE LABIA PUDENDI

15 I PHLEGMONOUS INFLAMMATION —This disease consists essentially in inflammation of the skin and subcutaneous cellular tissue It may attack females at any age, according to the cause, and it occasions very severe suffering It may occupy one or both labia *

Causes —Blows falls,† forcible intercourse violence of any kind, may give rise to it, or it may be the local development of a general disposition to inflammatory action It occurs occasionally during pregnancy, without any assignable cause, and after delivery, from the pressure of the child's head during its passage through the lower outlet

Symptoms —Heat, swelling, redness, and throbbing pain in the part, extending to the groin, where it sometimes excites sympathetic bubo in the lower row of inguinal glands, and down the thigh The pain is greatly aggravated by motion and the upright or sitting position indeed it is generally by the distress thus occasioned that the patient's attention is first attracted

* In our examinations of diseases of the external organs, we should always bear in mind the congenital malformations to which these parts are subject The labia and nymphæ may be of very different sizes, and one side may be much larger than its opposite The clitoris may be unusually prominent, (in infants it is always proportionately more so than in adults,) the orifice of the vagina may be smaller than usual, it may be closed by adhesion of its sides or by the hymen, or it may be altogether wanting In the latter case, the vagina itself is frequently absent

† Dr Davis relates a case where the patient, reaching a band-box from a height, fell astride on the back of a chair phlegmonous inflammation of the labium and abscess followed It burst, and the patient recovered —*Obstetric Med* vol i p 42

On *examination*, one or both labia are found to be enlarged, a circumscribed hardness is felt, the part is exquisitely tender, and a blush of inflammation deepens the natural color.

If the progress of the disease be not checked, and there is but little time allowed for this purpose,* matter is rapidly formed, the tumor becomes softer, especially at some one part, generally of the inner surface, and if let alone, will open spontaneously.†

The opening, however, does not always take place at the surface of the tumor, as from the texture of these parts the matter is apt to burrow, and escape at some more distant point. Boivin and Duges relate a case in which it opened into the rectum.

Diagnosis.—The disease may be distinguished, 1. From *hernia*, by the greater hardness of the swelling, and its more circumscribed character. It is not increased by coughing, and is not reducible. 2. From *œdema of the labia*, by the limitation of the tumor, the severe pain, and the deep color. In œdema of the labia, on the contrary, the swelling is diffused, occupying both labia; it is soft, pitting on pressure, nearly colorless, and comes on gradually.

16. *Treatment.*—The treatment is simple, and generally successful. If we are called to the patient at an early period of the disease, we may possibly be able to arrest its progress by venæsection or the application of a number of leeches to the part, in proportion to the violence of the complaint, followed by emollient poultices, and the exhibition of a brisk purgative. Dr. Dewees prefers the *ung. hydrarg. fort. sine terebinth.* to poultices, especially with young subjects.§

If suppuration have taken place, the leeches may be omitted; and the question of puncturing the abscess, or leaving it to nature, must be decided. Denman and Burns advise the latter; but Waller, Boyer, Boivin and Duges,‖ Dewees,¶ and Mackintosh,** prefer the former plan. Dr. Blundell would prefer the spontaneous rupture of the abscess, unless the accumulation of matter cause great suffering; in such cases he recommends a small opening with the lancet.††

Considering the very severe pain, the probability of the matter burrowing, and the disposition of these abscesses to form fistulæ if left to themselves, it seems to me that the wiser plan is to lay them freely open as soon as matter is formed. I have generally done so, and

* Dewees. Diseases of Females, p. 29.

† Davis. Obstetric Medicine, vol. i. p. 41.

§ Diseases of Females, p. 30.

‖ Diseases of the Uterus, &c. Heming's Trans. pp. 553, 556, 567.

¶ Diseases of Females, p. 31.

** Practice of Physic, vol. ii. p. 382.

†† Observations on the more important Diseases of Women, p. 277.

have always found the cure more prompt than when no interference had been attempted.

After the evacuation of the matter, poultices should be constantly applied for some days, and maintained '*in situ*' by a bandage. If the surface be sluggish, slightly stimulating dressing may be necessary. Absolute rest is requisite, and will be the more readily adopted by the patient on account of the pain of moving about. After the wound is healed, a degree of hardness generally remains, which will disappear after a time, or if not, it may be dissipated by absorbent or stimulant applications.

In some rare cases, as the result of great neglect, I have seen extensive sloughing or ulceration occur. In such cases, rest, fomentations, and poultices will generally be sufficient.

Should the abscess burrow, and a fistulous opening form at a distance, the abscess must be freely opened, and if the fistula do not close, it must be laid open also.

II. ENCYSTED TUMORS OF THE LABIA.—We meet with these tumors of various sizes,* but generally circumscribed and semi-transparent.

17. *Symptoms.*—These are few, and slightly marked, except when the tumors attain a great size, or when they are attacked by inflammation.

The patient may complain of a certain degree of uneasiness and weight, aggravated by motion. The skin covering them is rarely changed in color. When opened, they are found to contain glairy fluid,† unhealthy sanies, or dark colored puriform matter. Occasionally the contents are more solid.‡ Sometimes, though rarely, ulceration takes place in them, and a very unpleasant sore is formed.

In many cases they are to be regarded as symptomatic of more important diseases in the uterus.

18. *Diagnosis.*—The slow growth of the tumor, the absence of inflammation (in most cases) and of pain, will distinguish this disease from *phlegmon of the labia*, and their encysted character from *warty tumors*.

Treatment.—We have the choice of three modes of treatment. 1. The simple incision of the tumor, and evacuation of its contents, which in some cases is sufficient. 2. The insertion of a seton through the tumor, so as to produce suppuration and subsequent obliteration of the cyst. 3. The tumor may be dissected out, care being taken to remove the whole.

* Case by Dr. O'Ferrall. Dub. Journal, May, 1846.
† Davis. Obstetric Med. vol. i. p. 57, *Lancet*, Feb. 13, 1841.
‡ Boivin and Dugès. Diseases of the Uterus, &c. p. 543.

Either plan may succeed, but the latter is the more certain, and therefore in most cases the best.*

III. OOZING TUMOR OF THE LABIA.

19. This name has been given by Sir C. M. Clarke to a peculiar kind of tumor, arising from, or growing upon one or both labia, and sometimes extending to the mons veneris.†

Its texture is firm, and it is lobulated or divided by fissures: its color is nearly that of the part from which it springs.

It is not œdematous, although the neighbouring parts are so sometimes. It is seldom raised much (from $\frac{1}{8}$ to $\frac{1}{3}$ of an inch) above the level of the surrounding skin.

From its surface and interstices a watery fluid is distilled with considerable rapidity, varying in this respect according to the constitution of the patient and the weather; being much more profuse when the weather is damp and the constitution debilitated.

The complaint most frequently attacks fat, middle-aged women, who have borne children, or have been weakened by any cause.

Symptoms.—The principal symptoms are a troublesome itching of the part, with a great increase of heat, and a profuse watery discharge unmixed with blood. Occasionally the discharge is acrid, and excoriates the parts with which it comes in contact.

An examination will reveal the nature of the disease, with the characteristics just described.

Diagnosis.—Sir C. M. Clarke observes, "at first sight the complaint may be mistaken for that form of erysipelas denominated shingles; but, upon a more careful inspection, it will be found that the projecting parts are solid, and that they do not, as in the disease called shingles, contain a fluid."

We must also be careful not to confound excoriation of the labia with the oozing tumor.

20. *Treatment.*—There appears to be little hope of curing the disease except by excision of the labia, which Sir C. M. Clarke performed with success in one case.

As palliatives, astringent powders, such as starch and sulphate of copper, finely pulverised and mixed, may be sprinkled upon the tumor; or astringent lotions, such as decoction of oak bark, green tea, &c. may be applied. Lotions of port wine or alcohol are also useful. I am not aware that iodine has been tried in these cases, but I really think it might be useful.

* Boivin and Dugès. Diseases of the Uterus, p. 541. Sir A. Cooper on Hernia, Part II. p. 62. Blundell on Diseases of Women, p. 281. Med. Gazette, Mar. 16, 1839.

† Clarke on the Diseases of Females, vol. ii. p. 129. I beg thus early to acknowledge my obligations to the writings of this distinguished practitioner and accurate observer.

It will be necessary for the patient to remain at rest in the horizontal position, as the discharge is greatly increased by standing or walking.

The diet should be nutritious, and a moderate quantity of wine may be allowed. As heated rooms and warm seats always aggravate the disease, both should be avoided.

CHAPTER II.

WARTY TUMORS OF THE VULVA.

21. These occur both singly and in clusters, generally suspended by a pedicle from some part of the external genitals. Their size varies very much, generally from that of a pea to that of a turkey egg; but occasionally they are very much larger.* M. Dugès mentions his having excised one three inches in diameter.† My friend, Mr. Bryden of Manchester, has favored me with the notes of a case still larger;‡

* Clarke on Diseases of Females, vol. i. p. 283. Blundell on Diseases of Women, p. 281.

† Boivin and Dugès. Diseases of the Uterus, &c. p. 541.

‡ "Rose Blanch, nupta, æt. about 30, has had one child; states that about two years ago she perceived a tumor, about the size of a walnut, occupying the situation of the right labium, which has gradually increased to its present size: it is an irregularly shaped tuberculated tumor: something of the hour-glass shape, engaging the nymphæ, the clitoris, and the labia; it is much larger at the left side than at the right; it has a firm grisly pedicle; the uterus is free from disease. She never had any sore, syphilitic or otherwise, but has for some years since been affected with leucorrhœa; catamenia irregular. She never felt any inconvenience from the tumor until a week since, when it began to ulcerate and bleed, although its weight is great, viz. 1lb. 4oz. It has that horrid smell so characteristic of fungoid disease. She has not been able to sleep from excessive pain since it began to ulcerate; no appetite; thirst; stomach sick to nausea, and even vomiting of a nasty greenish fluid of a bitter taste. Tongue covered with a white slime; pulse regular. The tumor is of an hour-glass shape, 7¼ inches in length; its transverse circumference is, at three points, 10, 7½, and 9 inches."

and Dr. Wright of Edenton, U. S., has recorded a remarkable example in a negro girl.*

These excrescences, though commencing on the external labia, are very apt to spread to the vestibulum.

Symptoms.—The patient seldom complains of pain or tenderness, unless the tumors be attacked by inflammation.

Some inconvenience is experienced in walking or sitting down, when the tumors are large; and they generally give rise to a considerable discharge.

An examination will at once detect the nature of the disease. The excrescences will be found growing from some part of the vulva, of much the same color as the parts from which they grow.

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* "Jan. 17, 1839, I was called a few miles in the country to visit a negro girl, about 16 years of age, who was represented to be in a very perilous condition. On my arrival, I was told by the mother of the girl, that her womb had fallen from her, and was then hanging by a chord several inches from the os externum. On examination, what had been mistaken for the womb was ascertained to be a polypus. The chord or pedicle by which it was suspended was about two inches in length, half an inch in diameter, and round, except at the base or root, where it was flat, probably an inch in width. The tumor was spherical, and resembled very much an Irish potatoe before the peeling is removed, having places corresponding in appearance with what are called eyes in the potatoe, and produced, no doubt, by the rupture and drying up of small vesicles on the surface, some of which still remained unbroken. On removing the tumor, which was done by a few cuts with the scalpel, but slight hæmorrhage occurred, not sufficient to render a ligature necessary; nor was the operation productive of much pain. The tumor, after removal, was as large as an orange, and weighed seven ounces. It was quite translucent, and, being cut into, presented a cellular appearance, the cells being filled with a glairy fluid like white of egg. I learned on inquiry, that the tumor had fallen from the vagina about ten days previously, while she was at work in the field, and that she had continued to go about as usual for several days, with it supended by the pedicle; the parts at length becoming exquisitely tender and painful, she was compelled to resume the horizontal position, and to reveal her situation. Her general health had been very good, and the only inconvenience experienced was a slight pain when her legs were pressed tightly together; and this had been observed only about seven or eight weeks, so that the tumor had probably not been much longer in attaining its growth."—Case by Dr. Wright of Edenton, U. S. *Philadelphia Medical Examiner*, March 16, 1839. There can be but little doubt that this was a hypertrophied condition of one or more of the sebacious glands of the vulva.

Internally they consist sometimes of small cysts, filled with a thin serous fluid or purulent matter, surrounded by condensed cellular tissue and fat, or more solid matter.*

Now and then we observe suppuration taking place in them, and if they do not heal promptly, they are apt to degenerate into unhealthy sores.

In many cases they are of undoubted venereal origin, and sometimes arise from the seat of former chancres; but we also meet them independently of any taint whatever.

22. *Treatment.*—Relief is of course easily obtained for a time by excision: but these tumors are very liable to be reproduced.

They may be removed by the knife, scissors, or ligature. Hæmorrhage occasionally occurs when the former are used; but it may be restrained by the application of styptics, caustic, or the cautery.

The latter remedies, applied after excision, will also in many cases prevent their reproduction.

Dr. Dewees has succeeded in curing the disease, by exposing the excrescences to the air, and powdering them with chalk. "It was truly remarkable," he says, "to see with what rapidity these parasite productions lost their lives by depriving them of moisture."†

Should there be any suspicion of syphilis, mercury in some form or other must be given.

The patient should be kept quiet, the diet should be moderate, and the bowels occasionally freed by medicine.

CHAPTER III.

PRURITUS OF THE VULVA

23. This very unpleasant complaint, although strictly speaking only a symptom, occasionally assumes such a distressing prominence, as to demand a distinct notice.

It may occur in women at any period of life, though it is comparatively rare before marriage, or middle age. I have seen it in newly married women, in pregnant women, after delivery, and in old age.

Symptoms.—The patient experiences an intolerable itching of the vulva, with a burning, prickling, and tingling sensation, nearly intolerable. The suffering is intense, far worse than any pain, and not-

* Davis's Obstetric Medicine, vol. i. p. 57.

† Diseases of Females, p. 25.

withstanding the restraints of delicacy, it is almost impossible to resist the desire to rub the parts, wherever the patient may be; and yielding to such inclination, while it hardly affords even temporary relief, always aggravates the complaint.

In severe cases, when the parts are very tender, there is no sexual desire excited, but in other and slighter cases, where friction does not occasion distress, this is sometimes the case; and that which was at first adopted for the relief of the pruritus, may give rise to other sensations as imperious in their desire of gratification, and which increase by indulgence, so that the patient is reduced to a very melancholy condition; utterly unfit for society, she is injured by solitude, which leaves her to the uncontrolled dominion of her imagination: her mind, influenced by the excitement of the organs affected, is occupied with lascivious thoughts and impure desires, and her conduct (in defiance of herself, as a patient expressed it) towards the other sex shows the influence of the bodily disorder. In short, the attack may degenerate into nymphomania.* I do not say that this termination is frequent; on the contrary, a large majority of cases terminate without any such complication; but it does occur now and then, and I have known some melancholy instances. In general, we shall succeed in previously arresting the complaint.

In some cases, the itching is not confined to the vulva, but extends up the vaginal canal as far as the cervix uteri, causing intolerable distress, restlessness, loss of sleep, &c. I have observed this extension of the complaint most frequently following delivery.

A careful examination will generally, but not always, discern the cause, nature, and amount of the mischief. The vulva and vagina are often inflamed and swollen, of a florid, or deep red colour, and very sensitive. The surface may be excoriated generally or in patches, and secrete a discharge of an acrid character.

In other cases, there appears scarcely any morbid change, either in color or surface, especially where the pruritus results from internal disease.

Dr. Dewees observed an aphthous state of the mucous membrane of the vulva, in some cases occurring during pregnancy. He thus describes one such case.

"A lady, whose husband was more notorious for his gallantries than his domestic virtues, was attacked in the incipient stage of pregnancy with an intolerable itching in the pudendum, and even within the os externum, along the vagina. Suspecting she was infected by a venereal affection, we were sent for, and she giving such an account of her feelings as to make us think it might truly be the case, we proposed an examination of the parts, which was finally acceded to. Upon separating the labia, the whole face of the vulva, the os externum,

* See Astruc, Capuron, Nanche, &c. on Nymphomania.

and the vagina, as far as could be viewed, was covered with an incrustation of aphthæ. We assured our patient that her complaint was not as she had expected, but one we hoped we could quickly remove. We accordingly ordered a strong solution of borax in water, and requested her to wash herself four or five times a day with it, as well as to throw some of it up the vagina at the same time: she did so, and was perfectly well in twenty-four hours."*

It appears probable that a female laboring under this disease may communicate a similar affection to the male. "We have known," says Dr. Dewees, "a complaint communicated to the male by intercourse with a woman laboring under pruritus; it was very similar to that which infected the female, in its general character: that is, there was great itching and swelling of the prepuce, the whole internal surface of which, together with the glans penis, were covered with an aphthous efflorescence."†

24. *Causes.*—The causes are very various, though not always very evident. The secretion of the sebaceous glands, which are very numerous in this situation, becomes a source of great irritation from its acrid character, when allowed to accumulate, especially in warm weather.

This part is also liable to circumscribed inflammatory attacks, and to an eruption of prurigo or eczema, which may give rise to intolerable itching.‡ We have already quoted Dr. Dewees' case of aphthous inflammation occurring during pregnancy.

Dr. Davis relates a case, in which he thinks it arose from a superabundance of hair on the genitals, and which was relieved by destroying the hair with quick-lime and pomatum.§

The increased circulation in the sexual system during pregnancy, the discharges after delivery, and the disturbance about the cessation of menstruation, may be accompanied with this distressing symptom.

Dr. Blundell suggests that "though a good deal of pruritus is felt about the vulva, the real seat of the disease may be in the membranous lining of the womb itself;"‖ and we know that pruritus of the vulva often accompanies diseases of the uterus and bladder. Lastly, irritation of the rectum, from constipation or worms, may excite pruritus of the external parts.

25. *Treatment.*—Our treatment of this disease will be principally determined by the decision we come to, as to whether it be symptomatic of deep-seated disease or not, and also by the amount of irritation, and by the constitution of the patient.

In the former case, it will be better merely to attempt to afford tem-

* Compendious System of Midwifery, p. 123.
† Diseases of Females, p. 51.
‡ Biett, Maladies de la Peau, art. Eczema.
§ Obstetric Medicine, vol. i. p. 35.
‖ Diseases of Women, p. 276.

porary relief by some of the more simple local applications. Permanent cure we can scarcely expect, independent of the relief of the primary disease; and a sudden arrest of the external disorder might probably be at the expense of an aggravation of the internal and more serious complaint.

In the more simple cases, our first care should be to remove any exciting cause which can be detected. The parts should be gently and carefully bathed three or four times a day with warm milk and water, and then dried. If pediculi be present, they may be destroyed by astringent applications, such as turpentine, infusion of tobacco, &c. Sprinkling the parts with calomel is also fatal to them, and in many cases it affords relief to the itching.

Should the irritation be considerable, and persist after this treatment, it may be advisable in patients of a full habit to take twelve or fourteen ounces of blood from the arm, and to give a smart purgative.

When the acute symptoms have subsided, our principal reliance must be upon local applications. Some practitioners prefer them in the form of ointment, others in the form of lotion. I have always found the latter preferable, from their greater cleanliness, and from their being less affected by heat. One of the most useful lotions I know is composed of a decoction of poppy heads, with acetate of lead, in the proportion of half a drachm of the latter to a pint of the former.

Certain astringents, as solution of alum, sulphate of zinc or copper, have been found useful. Simple iced water, or cold water, with small quantities of dilute sulphuric or nitric acid, is a pleasant and useful application, although the latter cannot be used when the irritation is very great. Dr. Dewees found a solution of borax more efficacious than any other remedy, and Dr. Meigs confirms his experience. Dr. Meigs' formula is as follows: "take of biborate of soda half an ounce, distilled rose water six ounces, sulphate of morphia six grains."* Mix, and apply the lotion frequently in the course of the day.

Dr. A. T. Thompson has employed hydrocyanic acid and water, and M. Carron du Villards, lime water, with great benefit.

Dr. Waller recommends a solution of the nitrate of silver† (5 or 10 grains to the ounce), but Dr. Blundell found the relief thus obtained to be only temporary. He suggests the possibility of injections into the womb being beneficial.‡ In a case where this was tried with simple warm water by Dr. Ashwell, severe hysteritis followed, and in France and Germany, death from peritonitis has resulted from this experiment.

* Females and their Diseases, p. 78.
† Denman's Introduction to Midwifery, p. 39.
‡ Diseases of Females, p. 74.

Creosote in water has recently been applied, and it is said with success.

Of the ointments which have been recommended, the most useful are, the ung. plumb. acet. the ung. hyd. nitr. dil. and the ung. sulphuris. The strength at which they are to be employed will vary according to the amount of irritation; and previous to each fresh application, the parts should be carefully washed, lest the ointment become rancid, and aggravate instead of mitigating the disease.

The internal administration of sulphur and of mild alterative medicines, such as Plummer's pill, with decoction of sarsaparilla, has been highly praised. Large doses of sulphuric acid have been found of great use.* Dr. Dewees gave the balsam of copaiba with great benefit.† A few grains of cicuta or hyoscyamus, will frequently be of use in allaying the general irritation.

When the itching extends up the vagina, injections of warm or cold water, or of a solution of sulphate of alum, zinc, copper, nitrate of silver, &c. must be substituted for lotions.

26. When the patient is pregnant, the former will often succeed where the latter fail; and if we are unsuccessful, we have the consolation of knowing that the disease generally disappears after delivery.

If pruritus occur after delivery, injections of warm water, cautiously administered, will be found the most useful; but it will be necessary to guard carefully against cold.

These remedies, or a selection from them, will generally succeed; but we sometimes meet with cases which prove very obstinate, and a few which resist all our remedies, and afterwards subside spontaneously.

The diet should be moderate, with a total abstinence from stimulants. The patient should resist the desire to obtain relief by friction, and all means calculated to preserve or improve the general health should be employed.

Should the irritation lead to nymphomania, inasmuch as the cerebral functions become involved, the treatment must not merely be local, as just described; but, in addition, considerable advantage will be derived from remedies directed to the relief of the nervous centre, such as leeches behind the ears, a "*douche*" of cold water to the head and spine, whilst the body, or the lower part of it, is immersed in a warm bath, &c.

A hint is thrown out by Dr. Blundell, when describing this complaint, that perhaps when all other remedies have failed, the extirpation of the ovaries might be worth consideration. It is somewhat doubtful whether such a remedy be not worse than the disease.

The moral management of the patient is of great consequence.

* Dublin Journal, March, 1838.

† Diseases of Females, p. 49.

Every object, such as pictures, statues, books, &c. which can in the remotest degree favor the train of ideas with which the patient is too apt to be occupied, must be removed, and her occupations and amusements so arranged as to call into action antagonistic sentiments and principles.

For further information I must refer the reader to the works of Bienville, Robiun, and Herpian on Nymphomania; to the article in the *Dict. de Med. et de Chir. pratique*, by M. Jolly; to M. Louyer Villermay's work, *De l'Hysterie et de l'Hypochondre*; and to the authors already quoted.

CHAPTER IV.

INFLAMMATION OF THE MUCOUS MEMBRANE OF THE VULVA.

27. This is a disease which may occur at any period of life, but which presents considerable difference according to the age of the patient.

In children, it occupies the whole of the mucous membrane of the external genitals; sometimes, though rarely, spreading to the vagina,* accompanied with a profuse milky or puriform discharge with great smarting, but not severe pain; and ending in resolution, ulceration,† or gangrene. This is the *leucorrhœa infantilis* of authors.

In adults, on the contrary, the inflammation is very often partial and circumscribed, with a slight colorless discharge, intense pain, and ending almost always in resolution, very rarely in ulceration, and never in gangrene, so far at least as my observations have extended.

It will be advisable to consider these two forms of disease separately.

28. I. *Infantile leucorrhœa* is observed at all periods after birth, in infants as well as in older children, and principally among the neglected and badly nourished children of the poor.

* Some authors, I am aware, regard this disease in children as *vaginal* leucorrhœa, others confine it to the vulva. I have made many examinations very carefully, for the purpose of ascertaining the fact, and in at least three-fourths of the cases it did not extend further than the vulva. It is confirmatory of this view, that almost all the cases may be cured by applications to the vulva alone.

This opinion, expressed in the first edition of this work, has only been confirmed by further experience.

† Mr. Flemyng's case, *Med. Press*, Feb. 24, 1841.

35. *Causes.*—These appear to be chiefly cold, destitution,* mechanical injuries, irritating substances applied to the part, want of cleanliness, and sympathy with irritations of the rectum and large intestines. It has prevailed extensively during an epidemic catarrh of the mucous membranes; and in the examples given by Mr. Kinder Wood, of Manchester, and Boivin and Dugès, at the "*Hôpital des Enfans malades,*" at Paris, it constituted a very formidable epidemic.

It has also been attributed (and is still by the common people in many cases) to an attempt at criminal intercourse; and an instance is given in Percival's Medical Ethics, of a boy who was near suffering capital punishment for this supposed offence, and was saved merely by the occurrence of other cases, concerning which no suspicion could exist. The presence of this discharge is no proof whatever of such an offence, which must be proved by evidence totally independent of it.†

* Dr. Dillon, *Lancet*, Feb. 25, 1837.

† "Circumstances, however, sometimes occur, to render the diagnosis of this point extremely perplexing. We recollect a case of this sort, where two sisters, the one six, the other four years old, were affected with this discharge, and where the extreme youth of the (supposed) culprit would have led to the same conclusion, had not the discovery of well-marked phimosis placed the matter beyond doubt. Precisely similar circumstances we know occurred in the practice of one of our friends."—*Brit. and For. Med. Review*, vol. vi. p. 87.

"A girl seven years of age was brought by her mother to Dupuytren's consultation, for his advice respecting what she thought were the effects of violence committed on her child. There was a copious yellow-colored discharge from the vagina, and the labia were red, swollen, and painful. No excoriation or laceration, however, was to be perceived, and the hymen remained perfect. Dupuytren assured the parents that the symptoms by no means justified the suspicion which they entertained; he could not say positively that no attempts had been made to injure the child, but only that the existing symptoms might arise from other causes. Indeed so frequent are cases of this description at particular periods, that some have suspected that they might depend upon some epidemic influence.

"Dupuytren was lately consulted by a lady about her young daughter, in whom a purulent vaginal discharge, coming on without any apparent cause, had been observed for several days; it was of a greenish-yellow color, stained the linen deeply, and was so acrid as to occasion painful menstruation. Dupuytren regarded the case as one of catarrhal inflammation of the genitals, and predicted at the time that in all probability several cases of a similar nature would present themselves to his notice in the course of the week; and so it was;

29. *Symptoms.*—The commencement of the disease is marked by local uneasiness, itching, and scalding on making water; the mucous membrane is found inflamed and swollen, but for some time there is no discharge.

The uneasiness felt by the child induces an attempt to relieve it by rubbing the part, which of course increases the inflammation and aggravates the suffering.

At a more advanced stage there is observed a thin, colorless mucous discharge, which shortly becomes more copious, thicker, and of a white or yellow color. It is often of an acrid character, and causes a circle of inflammation, and sometimes of excoriation of the skin at the margin of the vulva. If the labia be separated, the mucous membrane will be found more vascular, and of a deeper color than usual; but in very few cases does this extend up the vagina.

The distress is increased with the progress of the disease, the smarting and scalding are very severe, and the little patient cannot walk without pain. It is rare to find any constitutional disturbance, unless in those cases where the attack is but the local development of a general catarrh. Under ordinary circumstances, the disease is neither very tedious nor very obstinate, and after running a certain course, it terminates in resolution.

30. The cases related by Boivin and Dugès* as having occured during a general catarrh of the mucous membranes, sometimes presented the appearance of erythema, erysipelas, or aphthæ, and sometimes of superficial ulceration.

"In the instances which occurred in the '*Hôpital des Enfans malades*,' (Dugès observes,†) there were two kinds—the one attacked the weak, cachectic, and exhausted, and followed after encrusted pustules, or rather superficial gangrene of the skin:—the other affected the robust and stout, accompanied with swelling, redness, pain, and fever, and beginning directly by an ulcerous point. Both presented a yellowish grey aspect, the edges abrupt like those of chancres; they occupied, however, the exterior rather than the interior of the pudenda: they increased in the same way as phagedenic ulcers, or wounds affected with hospital gangrene, of which they presented all the characters; the fever increased with their surface, and emaciation and death frequently ensued in the first form. In the second, real gangrene sometimes took place, though most frequently the inflammation subsided

they were all treated successfully with tepid baths, emollients, and soothing washes."—*Journ. Hebdom. Med. Chir. Review*, vol. xxi. p. 524.

* Diseases of the Uterus, &c. (*Trans.*) p. 651.

† Ant Dugès Essai Physiologico-pathologique sur la Fievre, &c. vol. ii. pp. 95, 132. Boivin and Dugès, p. 551.

easily, and was entirely cured by cleanliness, emollient lotions, moderate diet, and change of air."

Mr. Kinder Wood has given a very graphic description of the cases he observed in 1815.* The patients were from one to six years of age. Of twelve who were attacked, only two recovered. The inflammation of the labia was preceded by rigors, pain in the head, dullness, nausea, loss of appetite, thirst, &c. The distress of the patient on passing urine first attracted attention; and on examination, the labia were found inflamed, swollen, and of a dark color. Very soon the parts within the vulva became affected, and, from the thin discharge, Mr. Wood thinks it probable that the lower portion of the vagina was involved. The process of ulceration set in rapidly, twenty-four hours sufficing for the production of vesications within the labia; and when these burst, the denuded surfaces coalesced and formed large ulcers. The discharge then became dark-colored, copious, and offensive, irritating the neighboring parts, and favoring the extension of the disease to the thighs, perineum and anus. The pulse was quick and irritable after the commencement of the inflammation, and the face pallid. The bowels were constipated, and the stools brought away by medicine were dark, slimy, and offensive. In some cases, aphthæ had spread extensively round the anus and over the perineum. The ulcerations in this affection varied in depth and appearance, some being deep and dark-colored, and others superficial and sprinkled with small red granulations. After the occurrence of ulceration, "the external organs of generation are progressively destroyed, the peculiar pallor of the countenance increases, the pulse becomes quick and weak, the appetite fails, the bowels become loose, the skin of the thighs hangs loose and flabby as in marasmus, the discharge from the parts increases, and becomes more and more offensive, till the patient is worn out and expires."

In the more favorable cases, when the disease was checked by suitable remedies, the ulcerations became clearer and healed, but the constitution was found to have suffered severely, and a profuse yellowish discharge continued for some time, weakening the patient, and rendering her very liable to a relapse. The duration of the disease varied from a fortnight to a month; its extent and the gravity of the symptoms appeared to depend mainly upon the constitutional peculiarities of the patient.

Such is the formidable, though fortunately very rare, variety of the simple disorder first described, the wide difference consisting principally in a greater degree of inflammation (in Mr. Wood's cases) acting upon a deteriorated constitution. Dr. Macintosh† has found a similar

* History of a very fatal affection of the Pudendum of Female Children, by Kinder Wood, Esq. *Med. Chir. Trans.* vol. vii. p. 84.
† Macintosh's Practice of Physic, vol. ii. p. 384.

attack come on after measles, and he discovered considerable vascularity, with ulceration of the ileum, after death. The same disease was noticed by Dr. Ferrier, of Manchester,* as a concomitant of fever. He says, "that he has met with several instances of putrid fever in young girls, accompanied with broad maculæ on the body and limbs, and a gangrenous state of the labia pudendi. The parts were greatly tumified, and extremely painful. It was a very fatal complaint," &c.

As a *consequence* of the milder variety of the disease, adhesion occasionally takes place between the inflamed surfaces, which, at a future period, may impede the escape of the catamenia, or offer an obstacle to coition or parturition,† if not remedied. They are easily destroyed, when recent, by separating the labia; but at a more advanced period, it is sometimes necessary to use the knife.

31. *Diagnosis.*—The milder infantile leucorrhœa, and the severer form at the beginning, somewhat resemble the *intertrigo* of infants; but the latter generally commences in the fold of the skin between the labia and thighs, and, however severe the excoriation, it never runs on into ulceration.

Mr. Wood thinks the disease he has described resembles the *erysipelas* of infants more than any other disorder.

32. *Treatment.*—The treatment of the *milder form* is simple, and almost always successful. If the irritation be considerable, the parts should be fomented with warm water, decoction of poppies, or marshmallow leaves, three or four times a day. After each fomentation, the parts being carefully dried, black wash, or a weak solution of the acetate of lead, &c. may be applied. When the disease has become chronic, a lotion of sulphate of zinc, or better still, of nitrate of silver, (gr. x. or gr. xv. to ℥i of water) will be preferable.

If the inflammation have extended into the vagina, it will be necessary to inject some of the lotion by means of a small syringe.

The little patient should be kept as quiet as possible, and care must be taken to prevent her rubbing the part. The diet must be moderate, and all stimulants prohibited; laxative medicines may be given occasionally.

From the smarting caused by voiding the urine, the child is apt to retain it too long; this must be prevented, and relief may be obtained by bathing the vulva with warm water at the conclusion of each evacuation.

If there be any tendency to adhesion, lint spread with simple ointment should be placed within the labia.

Dr. Dewees found benefit from the exhibition of five drops of the tinct. cantharidis three times a day, increasing one drop per diem, but

* Ferriar's Medical Histories and Reflections, p. 169.

† Dewees on Disease of Females, p. 27.

omitting it altogether if it caused strangury: and also from the application of a warm plaster to the back.

If the gums be swollen, they should be scarified.

33. In the *severer form* of the complaint, Mr. Wood recommends us to begin with a purgative, and by "washing the vulva with the 'liquor plumbi acetatis dilutus,' slightly aired, and by poultices made with the same liquor and soft bread, applied warm, immediately after the parts have been washed." These applications are to be continued until the ulceration is healed.

At the commencement of the ulceration, bark must be given internally, and Mr. Wood found great benefit from adding to the decoction some aromatic confection, tincture of colombo, and tincture of opium. Wine may also be given in moderate quantity.

At a more advanced stage, when the tumefaction and redness are diminished, and the ulceration stationary, the *ung. oxydi plumbi albi* is very useful as a local application.

Should diarrhœa occur, chalk mixture, catechu, powdered chalk with opium, or any other medicine calculated to restrain inordinate action of the bowels, may be given.

34. *Inflammation of the vulva in adults.*—I have already stated that this affection in adults differs considerably from the one just described as occurring in children.

The inflammation is more circumscribed, less apt to occasion a breach of surface, and gives rise to a discharge of transparent mucus only. The pain is also incalculably more severe. I have known the suffering (for the time it lasted) to be as severe as in cancer uteri.*

Adult females of every age are obnoxious to the disease, although it is more frequent among married (especially newly-married) women.

35. *Causes.*—Neglect of cleanliness, and the consequent accumulation of the sebaceous secretion: sympathetic irritation, as worms in the rectum, amenorrhœa, diseases of the uterus, &c.; excessive sexual intercourse, and cold, may each give rise to the disease. It is probable that in some cases it may be owing to venereal contagion.

36. *Symptoms.*—The principal symptoms are, very severe pain, increased by motion and contact, scalding on passing urine, a sensation of weight at the vulva, and a forcing or bearing down.

If we examine the external parts of generation, we may discover either a general blush of inflammation, deepening the natural color of

* This is an additional proof, if any were wanting, that the sensibilities of mucous membranes is by far the most acute near their junction with the skin. An astringent injection scarcely ever causes smarting at any part of the vaginal canal, except at its orifice. Nay, the mucous membrane may be excised without pain, except at this part. The same is true of the other mucous membranes.

the mucous membrane, which is sometimes also covered with patches of a thick creamy exudation: a more circumscribed inflammation, which may attack any portion of the vulva, and is often seen merely surrounding the orifice of the urethra, and occasionally confined to the clitoris; a superficial excoriation, involving partially the adjacent skin: or a few isolated pimples, with a minute speck at the top of each, the rupture of which exposes a very small ulcer. Little or no tumefaction is perceptible in either variety. The general symptoms are pretty much the same in all cases.

Dr. Burns describes a superficial ulceration of this part, which gives rise to a good deal of suffering, but which is easily cured by slightly stimulating washes; and also a deeper kind of ulcer, which, from its resemblance to chancre, is apt to occasion distressing suspicions on the part of the patient or her friends. The surface and edges of the ulceration have, however, a different character, and the result of proper treatment will speedily remove all doubt.

Dr. Huston, the able American editor of this work, remarks that "where pimples are followed by brown scabs, or cream-like exudations occur, there is ground to suspect a venereal taint."

37. Dr. Oldham has recently published a valuable paper on the inflammation of the mucous follicles of the vulva, which very closely resembles the disease under notice. It is not peculiar to married women, nor to any one period of life. The inflammation is said to be limited to symmetrical patches of membrane at the posterior entrance of the vagina, and under the urethra: examined at the commencement of the disease, a number of small, highly injected points are seen, and the mucous membrane looks much inflamed. At first these points are solitary, and slightly raised on the surface, and a minute speck of ulceration is frequently seen in the centre. These correspond to the follicular crypts of the mucous membrane, and the ulcerated portion to their central pore. After a time the points lose their appearance of being isolated; they coalesce, and a band of vividly injected membrane is formed. The sphincter vaginæ is always contracted, and the mucous membrane is much puckered. In several cases Dr. Oldham has seen the disease extend to the lowest folds of the vagina, the tops of which become very red, and bleed on being touched or separated. In one case, the whole tract of the mucous membrane of the vagina was thus affected. When the disease is of long standing, the color of the mucous membrane of the vulva and lowest part of the vagina is changed to a whitish appearance; especially in women who have ceased to menstruate. The disease is exceedingly intractable, often tormenting the patient for years. The earliest symptom is leucorrhœa, with more or less irritation of the external genitals, particularly after much standing or walking. The discharge is at first thin and whitish, afterwards thicker and yellowish. It never assumes the viscid, gluey character, but it soils the linen with a yellowish tinge, sometimes having a darker color from the admission of a small quantity

of blood, and occasionally having an offensive smell. The part of the mucous membrane affected becomes the seat of a most painful and almost incessant smarting, with now and then a severe attack of pruritus. The patient sits down with pain, and adjusts her seat with care, first resting on one ischium, and then gradually sinking down on the chair. Sexual intercourse is painful at first, but when the disease is established, it is altogether abandoned, from the intense suffering it causes. Pain in passing water is a very rare symptom. The local symptoms are often aggravated just before a menstrual period, or by mental depression, or fatigue, or by constipation. The patient also complains of pain in the loins and about the sacrum, extending to the inguinal regions, and thighs. Separating the parts, for the purpose of examination, gives great pain; and when put on the stretch, the inflamed follicles sometimes bleed. The vaginal orifice is generally contracted, but above the orifice there is neither pain, tenderness, nor heat. * This form of the disease, according to Dr. Oldham, differs from eczema, or herpes, or aphthous inflammation of the vulva, in the absence of general swelling, in its evident follicular origin, and in the absence of vesicles.*

M. Huguier has also published a memoir on this disease. He distinguishes three periods, eruption, suppuration, and desiccation. That form described by Dr. Oldham he regards as a variety of acne affecting the pudendal sebaceous follicles. He also mentions a true hypertrophy of these follicles, which gives rise to warty excrescences, often erroneously supposed to be venereal, and which can only be cured by removal.†

38. *Terminations.*—Inflammation of the vulva almost always terminates in resolution, but in many cases it assumes a chronic form, and is tedious and obstinate, occasionally resulting in hypertrophy of the tissues involved. Should the inflammation spread deeper, so as to reach the submucous tissues of the labia, an abscess may be the result.

Dr. Oldham mentions the extreme intractability of follicular inflammation, and M. Huguier, that warty growths may result from this disease.

Adhesion of the opposite surfaces may take place from neglect, but it is very rare.

39. *Treatment.*—The treatment must be more or less antiphlogistic. In a few cases, leeches to the vulva may be necessary; but in general, a frequent use of emollient fomentations, such as decoction of poppy heads, or marsh mallow leaves, &c. will abate the irritation; and after-

* Medical Gazette, May 15, 1846, Ranking's Abstract, vol. 4, p. 305.

† Archives generales de Med. 1846. Ranking's Abstract, vol. 4, p. 307.

wards blackwash, or lotions of the acetate of lead, or sulphate of zinc, will complete the cure. If the case be obstinate, a weak solution of the nitrate of silver will be useful.

When there are pimples, they should be lightly touched with the solid nitrate of silver.

Dr. Oldham recommends sedative applications, and has found hydrocyanic acid the best, either as a lotion or ointment, but he prefers the latter. He prescribes two drachms of the acid with a scruple of the diacetate of lead, made into an ointment with two ounces of cocoa nut oil. The parts should be first bathed with infusion of roses, and then the ointment should be applied two or three times a day on lint.

A lotion of lime water with opium is often useful, or a poultice made with crumbs of bread saturated with the decoction of conium leaves, to which the liq: plumb: acet: has been added.

A brisk purgative should now and then be administered, and I have found saline purgatives the best. The diet should be moderate, and all stimulants should be avoided. The greatest cleanliness is necessary, and the patient should live "*absque marito.*" Change of air is often of use, and mild tonics. When the health is somewhat recruited, Dr. Oldham has several times tried a mild mercurial course with benefit.

CHAPTER V.

ENLARGEMENT OF THE CLITORIS.

40. This organ is not only occasionally much larger than usual, as a congenital malformation, but the aid of the surgeon is sometimes required on account of hypertrophy of its natural tissues, or deposition of adventitious matter into its substance.

Dr. Hooper* has described what he calls a "cauliflower excrescence" growing from this part. "It mostly arises," he says, "from the præputium clitoridis by a small base, the size of a goose quill, or filbert, though in some instances the base is broader. It soon expands and divides into lobes, which are again divided into other branches, very irregularly, and at length their extremities are flattened and fringed. The whole is of a whitish color, and very like, in appearance and feel, to an unripe or little expanded cauliflower. This disease of the clitoris and its prepuce cuts like hard gristle, and the divided surface is whitish, smooth, and not vascular to the eye."

* "Morbid Anatomy of the Human Uterus."

Such cases are not very rare, and some instances are on record where it attained to a very large size;* in others, more moderate, it has given rise to doubts as to the sex of the individual. In the majority of cases, however, it does not exceed two inches in length.

41. *Causes.*—A principal cause of morbid growth of the clitoris was formerly conceived to be excessive sexual indulgence, but this has been proved to be altogether erroneous by the late M. Parent-Duchatelet, in his work "On Prostitution in the City of Paris."

* A clitoris was amputated some time ago in Mercer's Hospital, in this city, which in volume was about equal to the head of a child of two years old.

"When Dr. John Symes was a student in Edinburgh, there was admitted into the Infirmary of that city a young woman who presented some of the more prominent symptoms of nymphomania." After examination, the surgeon "reported that he had found the external genitals generally in a state of great phlogosis, the nymphæ remarkable for their volume, and the clitoris, especially, enormously enlarged. In a consultation of physicians subsequently held on the case, it was determined to effect the removal of the greater part of the clitoris by an operation." "The removal of the diseased organ proved successful in curing both the local affection and the disordered state of the imagination."—*Davis's Obstetric Medicine*, vol. i. p. 60.

"In December, 1833, Mrs. Lindsay, about forty years of age, consulted me regarding her complaints On inspection, the clitoris was found to be about eight inches long, and of a pyriform shape. The pedicle of the tumor was firm, and about the thickness of the wrist, the most depending part of it hard, and fully larger than two fists. The nymphæ were elongated and covered with a dry, smooth, and pale-colored cuticle, thickly set with warts. The clitoris presented a similar appearance, except having none of the warty excrescences. The mucous membrane having lost its secreting power, was become smooth and dry, and by reason of the external position of the parts, was converted into an opaque insensible cuticle. The sensibility of the parts, when elongated so as to project beyond the labia, was greatly impaired. With the exception, however, of being of a solid and fibrous structure, they were not in any other respect morbidly deranged. The disease was of two years standing, and had commenced shortly after the patient's having undergone a course of mercury for syphilis.

"While the external parts were held aside by an assistant, the clitoris was pulled out as far as possible from under the pubes, and a ligature applied close to the base of the tumor. Excruciating pain was complained of during the first day, after which it gradually subsided. The ligature was tightened every day for eight days, at the end of which the tumor dropped off."—*Mr. Edwards in Med. Chir. Review*, vol. xxi. p. 489.

Amongst all the registered prostitutes of Paris (amounting to about 6,000,) there were but three examples of enlarged clitoris, and none of them had distinguished themselves for extraordinary abandonment to sensual gratification; and, on the other hand, the clitoris was found of the natural size in females of the most unbridled passions.

It is difficult to decide with regard to M. Parent-Duchalet's work, whether it is most admirable for the extensive, yet minute and precise details it contains, or for the perfect propriety with which such a subject is investigated.

42. *Symptoms.*—The primary symptoms arise from the mechanical disproportion of the parts; in some cases sexual intercourse has been impeded, and motion rendered unpleasant: in a few the sensibility of the part is destroyed, in others it is augmented, and in these we find sexual desire predominant. In very rare cases, this increased sensibility leads to sexual indulgence, which may terminate in nymphomania.

The hypertrophy may be congenital or the consequence of inflammation.

This part is also the seat of scirrhous deposition, most frequently connected with a similar morbid condition of the uterus, ultimately running into ulceration, with lancinating pain, and fœtid discharge, and terminating fatally.*

43. *Treatment.*—If the hypertrophy be slight and the symptoms not very severe, relief may sometimes be obtained from cooling or astringent lotions, or from the application of caustic to the part; but if the enlargement be so excessive as to occasion physical inconvenience, or so

At the Westminster Medical Society, Nov. 14, 1840, "a morbid specimen was placed on the table, consisting of the external parts of generation, the uterus and appendages of a lady about forty-five years of age, who had died from what had been considered carcinoma of the uterus. The disease first came under the observation of the medical attendant in February last. On examination he discovered that the clitoris was much enlarged, hard, very sensible, and partly blocking up the vagina. Ulceration soon began to exhibit itself at the extremity of the clitoris, which soon became destroyed. The ulceration spread quickly to the nymphæ, and eventually quite to the ossa pubis. The patient sunk from the effect of this disease upon the system. The internal organs were healthy; the uterus and appendages were also free from disease."—*Lancet*, Nov. 21, 1840, p. 310.

See also Mr. Simmon's case in the London Med. and Phys. Journal, vol. v. p. 1; and M. Krämer's, in Schmucke's Vermischte Chirurgische, &c. vol. ii.

* Dewees on Diseases of Females, p. 25.

London Med. Journal, vol. ii. p. 115.

Bull. Med. Belge, June, 1835.

sensitive as to give rise to sexual indulgence, amputation will be the best remedy.* Some blood is usually lost,* but it may be always checked by cold applications or caustics.

Astringent lotions should be used for some time, and the patient kept very quiet.

If, when the clitoris is enlarged by morbid deposition, we can ascertain that the uterus is free from disease, we may, under favorable circumstances, remove the former organ, but there are few cases which are permanently cured by the operation, so apt is the disease to be reproduced. If the operation be attempted, great care should be taken to excise the whole of the diseased portion.

CHAPTER VI.

TUMORS AT THE ORIFICE OF THE URETHRA.

44. I. The most frequent of these painful excrescences is the small *vascular tumor*. This was first noticed by Morgagni, who says, "Examining the body of an old woman, about the year 1751, I met with a small triangular excrescence within the external orifice of the urethra, but it was not prominent." "There is a red and fungous excrescence, which is of the size of a bean, sometimes to be observed attached to the orifice of the urethra."†

The next person who observed it was Mr. Hughes, of Stroudwater, Gloucestershire, in 1768. He describes it as of "a red color, and of a softish spongy texture, with an irregular, jagged surface; was sore when touched, and a bloody serum oozed from it." Mr. H. removed the meatus urinarius, which completely included the disease, and cured the patient.†

Since then it has been more minutely described by Bromfield, Sharp,

* Richerand, Nosographie Chirurgicale, vol. iv.

Graefe, Nouvelle Bibliotheque Med. 1825, vol. ix. p. 256.

"This incision, made with the bistoury, has been known to cure vicious habits, and even the idiotcy which has been connected with them. Such an operation, proposed by Levret, will, however, generally fail in cases of real nymphomania."—*Boivin and Dugès*, (*Trans.*) *on Dis. of the Uterus*, p. 537.

† Med. Facts and Observations, vol. ii. p. 26.

Warner, Jenner, Sir C. M. Clarke,* Wardrop,† Velpeau,‡ Hosack,§ Rosenmüller, Vogel, Kaldebrand, and Drokaska.

The tumor arises either from the little projection just above the orifice of the urethra, or from the edge of the orifice itself.

It generally occurs in young women, whether single or married. Sir C. Clarke never met an instance of it in a female past the middle age.

45. *Causes.*—The temperament of the individual appears to have little or nothing to do with its production. It is not improbable that it may result from the circumscribed inflammation around the orifice of the urethra, already described.

46. *Symptoms.*—Severe and constant pain at the vulva, increased to agony upon motion and contact: a sense of weight and bearing down, frequent desire to evacuate the bladder, and scalding.

From the intensity of the suffering, sexual intercourse is almost precluded, and the patient, anticipating some grave disease of the womb, becomes agitated and depressed in spirits.

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* Diseases of Females, vol. i. p. 289. Lond. Med. Journ. vol. vii. p. 160.

† Lancet, vol. xiii. p. 784.

‡ Journal Hebdomad. July, 1836.

§ New York Journal of Med. and Surg. No. I. p. 29. He says, on examining, "I discovered two or three little tumors immediately within the meatus urinarius, to which they were attached by a narrow neck. They were of a florid red color, and appeared to be covered by the delicate lining membrane of the urethra. They were exquisitely sensible, and bled upon the slightest touch. In form they resembled a split pea, varying in size from that to a small kidney bean, and placed upright in such a manner as to break the flow of urine." They were snipped off with a pair of scissors, but in three months they grew again. Again they were removed, and the edge of the orifice of the urethra along with them. At the expiration of a few months, they reappeared, and it was determined to excise more of the urethra. After finding the length of the urethra, and determining how much should be removed, Dr. Hosack proceeds, "I seized the fungous excrescence with the "*pince de Museux*," and drawing it out, I circumscribed the urethra with a knife, and carried on the dissection till I had detached about three-fourths of an inch in extent, as I supposed. I then examined the urethra at the upper extremity of the wound, and finding it perfectly natural and free from all hardness, I separated it at that point. The hæmorrhage for the moment was very great, but by pressure constantly kept up with a compressed sponge, it was arrested, or so much restrained, as to do away with all anxiety on that account." "It is now six months, and no return of the disease."

The discharge, which is tolerably copious, is merely an increase of the natural mucus of the part.

The nature of the complaint is at once perceived on separating the labia: close to the meatus urinarius a small projecting tumor is seen, varying in size from a pea to a nut, of a florid red color, with a slightly granular surface. It is very tender when touched, but this sensibility is confined to the tumor. Its texture is not firm but spongy, and, when handled roughly, it bleeds. It is perfectly moveable, and on turning it a little to one side, its insertion into the tubercle above the meatus urinarius, or into the lip of the meatus, is distinctly exposed. It appears to consist almost entirely of vessels and their connecting cellular tissue.

47. *Diagnosis.*—From the similarity of the symptoms of this disease to those arising from circumscribed inflammation of the vulva, it is evident that a correct diagnosis can only be formed after careful examination.

48. *Treatment.*—The removal of the tumor is absolutely necessary to the cure of the disease, the only question is the mode by which it can be best effected.

In the text of Sir C. Clarke's Essay, he advises a broad ligature as more likely to prevent a recurrence of the disease, but in a note appended to it he states, that further experience has led him to prefer excision and the application of caustic to the root of the tumor.

Dr. F. Ramsbotham, in his lectures, as reported in the Medical Gazette, gives the preference to a thin silk ligature.

Dr. Lever prefers tying the tumor, when it is of the form of a cherry or mulberry, with waxed dentist's silk, and then cutting off the tumor below the ligature.

M. Dugès states that he has seen the disease cured by astringent lotions alone; and Dubois and Cullerier recommend cauterization without excision.

Instead of using caustic after excision, Mad. Boivin sprinkles the part with powdered alum.

Our object may doubtless be attained by either of these methods; but excision, followed by cauterization, is the most effectual.

If the ligature be used, it should produce only a moderate degree of pressure at first, and, after a few hours, be tightened; the object being not merely to remove the tumor, but to do so by destroying its vitality.

If excision be determined upon, the tumor should be snipped off with a pair of scissors close to the mucous membrane, and the root touched with lunar caustic, nitric acid, or the potassa cum calcê.

The operation gives little pain, and is very seldom followed by any hæmorrhage.

I have had a good deal of trouble lately with a case where the tumor originated some distance within the meatus urinarius. After excision

as near the root as I was able, repeated applications of caustic were necessary.

After the tumor is removed, and the caustic applied, the parts ought to be kept constantly wet with some refrigerating lotion, as a means of preventing inflammation and the re-formation of the tumor.

It will be necessary for the patient to take two or three doses of purgative medicine, and to remain very quiet for some days.

49. II. *Encephaloid or Carcinomatous Tumors* are occasionally met with in this situation, and have been well described by Boivin and Dugès.*

They are generally symptomatic of an analogous morbid condition of the uterus, and consequently are rarely seen in young females.

50. *Symptoms.*—The symptoms resemble those noted in the vascular tumor, with the addition of such as are attendant upon the primary disease.

They give rise to intense irritability of the vulva, scalding, smarting, and a mucous discharge. On examination, a lobulated tumor or a cluster of them (seldom of a large size) is discovered. They are extremely painful when touched.

Diagnosis.—The age of the patient will be in some degree a guide to us; and an internal examination, if it detect disease of the uterus, will probably remove all doubt.

51. The *treatment* will entirely depend upon their being complicated or not with uterine disease. If they be, little ought to be attempted, as no permanent relief can be obtained, and the additional distress caused by them is but a small portion of the patient's sufferings.

If they be not complicated, however, we may perhaps afford relief by excision, canterization, and cold applications, precisely as recommended in the vascular tumor.

Greater care will be required to secure complete extirpation, on account of their malignant character and facility of reproduction.

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* Diseases of the Uterus, (Heming's Trans.) p. 546.

The reader will find a fearful example of this kind of tumor related by Mr. Braynè of Banbury, in the 4th vol. of the Transactions of the Provincial Medical and Surgical Association. It has grown to an enormous size, weighing "full eleven pounds." The effect upon the patient is what might be expected. Her constitution is breaking down, without hope or help from medicine or surgery.

PART II.

DISEASES OF THE INTERNAL GENITAL ORGANS.

SECTION I.—DISEASES OF THE VAGINA.

CHAPTER I.

VAGINAL LEUCORRHŒA, FLUOR ALBUS, WHITES, SEXUAL WEAKNESS, ETC.*

52. Inflammation of the mucous membrane of the vagina, not arising from contagion,† may be either acute or chronic.

We shall consider these forms separately.

1. *Acute vaginal leucorrhœa, or acute vaginitis*, is by far the least frequent of the two, but the most painful. It rarely occurs in unmarried females, or in elderly persons; the discharge to which these are most subject being either chronic vaginal, or uterine leucorrhœa.

53. *Causes.*—The principal causes are cold, violence (as in rape,) excessive sexual indulgence, exertion soon after delivery, high living, or inflammation spreading internally from the vulva.

The habits of the patient will of course influence the operation of any of these causes.

54. *Symptoms.*—The patient first perceives a sense of heat and soreness in the vagina, varying according to the amount of inflammation,

* Manning. Diseases of Women, p. 155.
Leake. Diseases of Women, p. 98.
Astruc. Diseases of Females, p. 265.
Cyclopedia of Pract. Medicine, art. Leucorrhœa.
Capuron. Mal. des Femmes, p. 209.
Dict. de Med. et de Chirurg. pratique, art. Leucorrhée.

† I do not purpose to describe the vaginitis resulting from gonorrhœal infection; nor to enter upon the distinction between vaginal and uterine leucorrhœa, which will be found fully described in the chapter on the latter disease.

with itching of the external parts. These symptoms increase after a time, and pain, smarting, a feeling of weight and bearing down are added, together with a sensation of tightness, as though the mucous membrane of the vagina were swollen.

If the attack be violent, weight in the lower belly, and pain extending down the thighs will be experienced, and the irritation may even be extended to the bladder.

At first there is no discharge at all, but in the course of a day or two, the patient notices a more or less profuse flow of a thin, colorless, and occasionally acrid fluid, which in a little time becomes whitish or yellowish, and of much thicker consistence, resembling cream, and without any diminution in the quality until the attack subsides.

M. Alph. Donnè has lately published an account of some interesting microscopic researches as to the nature of mucus, and the different discharges from the urino-genital organs.

Amongst his conclusions are the following:

"The mucus of the vagina is in its healthy state acid, and composed of pellicles of a peculiar form. It never contains animalcules unless in an unhealthy state."

"The discharges from the vagina are either simply mucous, or purulent."

"Mucous discharge constitutes vaginitis, or vaginal leucorrhœa. It never contains any animalcules."

"Purulent discharge constitutes vaginal gonorrhœa; in it are found the new animalcules which M. Donnè has described under the name of *Tricomonas* vaginalis."

"The acidity of the vaginal mucus, and the presence of animalcules in it, perhaps contribute to diseases of the neck of the uterus."

"Uterine mucus is always alkaline, which distinguishes it from that of the vagina. In its healthy state it is not opaque, and presents no globules; in affections of the neck or body of the uterus it becomes muco-purulent, but never produces animalcules."*

The local distress is considerably relieved when the discharge is fully established.

55. If an *examination* be made at the commencement of the attack, the calibre of the vagina will be found to be diminished, and the mucous membrane to be swollen and puffy.

The heat and tenderness are considerable, but no breach of surface can be detected by the finger or speculum.

M. Marc d'Espine examined 100 cases of this disease; the principal alterations were those of color. In some the membrane was pale, in others rose-colored, in others uniform red, in others spotted or patched with red.

* Extracted from *Med. Gazette* for July 22, 1837; also Curling's Lectures in *Med. Gazette*, Jan. 11, 1838.

The discharges were as follows in the 100 cases examined :*

	Muc. Mem. pale.	Muc. Mem. rose.	Muc. Mem. red	Muc. Mem. spotted or patched.
No discharge	24	12	3	0
White creamy	11	10	8	6
Caseous	1	2	0	0
Puriform	5	5	7	6
	—	—	—	—
	41	29	18	12

In most of the cases I have examined, the vaginal portion of the cervix uteri was but slightly if at all affected; occasionally the labia pudendi were swollen, and still more rarely the glands of the groin were enlarged.

At an advanced stage of the disease, the swelling of the mucous membrane will be found to have subsided, and the heat and soreness to be much reduced. The most prominent feature at this period is the profuse discharge.

If the attack is but slight and temporary, no constitutional symptoms will be developed; but if severe, the patient will suffer from rigors, heaviness and langour, pain in the back and round the loins, head-ache and thirst, with a quick pulse and a loaded tongue.

These general symptoms, as well as the local ones, are, however, generally mitigated by the occurrence of the discharge.

56. *Terminations.*—In some cases, when treated promptly and judiciously, the attack terminates in resolution, evidenced by the equable subsidence of all the symptoms. Its duration may vary from a few days to a month.

But, more frequently, the local distress and most of the general symptoms (if such be present) having subsided, but the discharge continuing, the disease glides gradually into the chronic state.

57. *Diagnosis.*—The distinction of this disease from *gonorrhœa* is, according to all authorities upon the subject, extremely difficult. Sir C. Clarke seems to consider it impossible, and probably it may be so in many instances.

There are some cases, however, in which all doubt may be removed by an examination with the speculum. Whenever the peculiar erosions, or superficial ulcers of the mucous membrane covering the cervix uteri, described by Ricord,† and which, he says, occur in nineteen out of twenty acute cases, are discovered, then we can have no hesitation in pronouncing the disorder to be gonorrhœa.

* *Archiv. gen. de Med.* Feb. 1836.

† See Ricord on the employment of the speculum in Females affected with venereal diseases, &c. Mem. de l'Acad. 2 vols. 1833.

The discharge from the urethra (though it does occasionally occur) is much less frequent in leucorrhœa than in gonorrhœa. Out of two hundred cases of the latter kind, Ricord states that eight in every twelve had the urethra so affected.

The glands of the groin are also much less frequently enlarged in simple acute vaginitis.

In addition, the moral character of the patients will afford a certain amount of assistance to us in coming to a decision.

The condition of the vagina and cervix uteri will at once distinguish it from *acute uterine leucorrhœa.*

The *consequences* of an attack of acute vaginitis are seldom of much importance; if it be neglected, narrowing of the vagina, or adhesion of its sides may take place; but if discovered in time, they are easily remedied.

58. *Treatment.*—If the patient be of a plethoric habit, and the inflammation intense, a proportionate quantity of blood should be taken from the arm, or leeches applied to the vulva, followed by fomentations.

In milder cases, bran poultices or fomentations may be sufficient, with vaginal injections of warm water at first, and subsequently of a solution of the acetate of lead.

A hip bath occasionally will be found a powerful adjunct in abating inflammation.

In some cases I have tried small doses of tartar emetic with apparent benefit.

The patient should be confined to the horizontal position as much as possible, and saline purgatives given as often as may be necessary.

The diet should be spare, and all possible causes of aggravation avoided.

In the majority of instances, an early and diligent use of these means will cure the disease; if not, it will probably assume the chronic form, which we will next consider.

59. *Chronic vaginal leucorrhœa,* or *chronic vaginitis.*—This is one of the most common diseases to which females are obnoxious, few escaping an attack of it at some period of their lives; nor is this surprising when we consider the variety of local stimuli to which the vagina is exposed, in addition to those more general causes of disease, which act upon it in common with other mucous membranes.

The period of female life during which it is most frequent is, as we might expect, from the establishment of the menstrual function until its cessation. It does however sometimes, though rarely, precede the appearance of the catamenia, and although it may occur subsequent to their cessation, the majority of cases in which this is stated to have been the case were, I have no doubt, examples of uterine leucorrhœa.

From the constitutional peculiarities of some patients, (and very often induced by the disease itself) the discharge has been attributed to relaxation and debility. If, however, the local symptoms be carefully

estimated, and their progress traced back, sufficient grounds will, I think, be found for considering the local disorders as inflammatory, and in this opinion Dr. Dewees coincides.*

The chronic form may probably be always a sequence of the acute, although from the brevity and slight intensity of the latter, it may have passed over unnoticed.

60. *Causes.*—These are either *local* or *general:* among the former may be enumerated excessive coition, frequent child-bearing, irritation from foreign bodies in the vagina, (as for example, a pessary,) or in the neighbouring parts, (as the rectum, &c.) displacements, morbid growths, &c.

Among the latter causes we find cold, especially in spring and autumn, alternations of wet and dry weather, too free living,† the excessive use of spirits or wine, peculiar temperament, sympathetic irritations, &c.‡

61. *Symptoms.*§—The patient experiences a colorless or whitish discharge from the vagina, varying in quantity, and of a bland character generally. In some cases it has been found of a brownish color, and acrid, excoriating the edges of the vulva.||

There is very little increase of heat, and seldom any pain or tenderness. I have never known the inguinal glands to be affected.

If the discharge be very profuse, considerable weakness may be induced, with great weariness after exertion. There is generally some complaint of aching in the back and loins, and after the discharge has continued long, dyspeptic symptoms appear.

A question has been debated as to whether leucorrhœal discharges, (either uterine or vaginal,) not venereal, can give rise to gonorrhœa and sores in the male, and opposite opinions have been maintained. John Hunter, a very high authority, observes, " Such cases, as far as

* Diseases of Females, p. 67.

† Sir C. Clarke has described a species of excessive mucous discharge, which he believes to be independent of ' increased action,' and which he attributes to the formation of an excessive quantity of blood from high living and indolent habits. The uterus, sympathising with the general plethora, secretes an unusual quantity of mucus and catamenia. —*Diseases of Females*, vol. i. p. 301.

‡ *Ibid*, vol. i. p. 163.

§ For the severer symptoms usually described in books, I must refer the reader to the chapter on Uterine Leucorrhœa. The responsibility of their omission here must rest on myself entirely; all I can say in self-defence is, that among the great number of patients I have carefully examined, I have found them absent in all cases of uncomplicated vaginal leucorrhœa.

|| Siebold's Frauenzimmerkrankheiten, vol. i. p. 579.

I have seen, have only been in the form of gonorrhœa; they have not produced sores in the parts, nor so far as I know, do they even produce constitutional diseases." Other writers have, however, maintained the contrary, and the question is by no means easy of solution. It would appear, at least, that the leucorrhœal discharge may excite considerable irritation in the mucous membrane of the urethra of the male.

I have seen several cases of a thin mucous discharge in males, who positively denied having had, for some years previously, intercourse with any other females than their wives. The wives denied most strenuously the accusation of incontinence, and certainly exhibited no symptom whatever of a gonorrhœal character.

In the "Lancet" for July 9th, 1836, (vol. ii. p. 492,) there are some cases related by Mr. Eagle, of sores on the penis, produced by connexion with females laboring under leucorrhœa only. I may quote one. "Obs. 5. A married gentleman, æt. 33, of sedentary habits, is frequently the subject of indolent ulcers on the prepuce, which are at times long in healing, if no mercurial be used. His wife is healthy in appearance, although the subject of leucorrhœa." There are other similar cases related, and some which show that sores may be caused by connexion during menstruation. The conclusions Mr. Eagle draws are—"First, that a modest female laboring under leucorrhœa may inflict both a gonorrhœa and sores. Secondly, that as the more severe the cause, the more intense the effect, it follows,—Thirdly, *and principally, that the same discharge*, occurring in a female, under the continued and combined excitement of venery and drink, would possess so much the more acrimony, that it would produce venereal gonorrhœa or true chancre."

Of course, these cases do not prove the point, as so much depends upon the veracity of both parties, who may be supposed to have an interest in concealing the truth. Whether vaginal or uterine leucorrhœa would be more likely to excite such an irritation in the male organs, I am unable to say.

62. *Diagnosis.*—It may be distinguished, 1. from the *acute stage of gonorrhœa*, by there being less local irritation, by the discharge being colorless or whitish, by the absence of scalding on passing urine, and of the discharge from the urethra.

2. From *uterine leucorrhœa*, by the discharge being unconnected with irritation of the uterus, by its not increasing before or after each menstrual period, and by the minor degree of constitutional suffering.

63. *Treatment.*—It is very rarely, indeed, that depletory measures are necessary, and in such a case a few leeches to the vulva, or cupping the loins, will suffice. If the patient be weakly or cachectic, tonics, either vegetable or mineral, ought to be given. Opium in small doses has been found useful, from its power of diminishing secretion.

Balsam of copaiba has been recommended, but I cannot say that it has succeeded in the cases in which I have tried it.

Dr. Cless of Copenhagen, and others, have prescribed cubebs with benefit.

"Copaiva balsam, compound tincture of benzoin, and cubebs, are the principal medicines. I would advise to administer them according to the effect produced. A pretty full dose of the copaiva I consider to be about four drachms in the course of the day; of the compound tincture of benzoin, an ounce, and one or two ounces of the cubebs daily, more or less according to the effects produced."*

Tincture of cantharides is recommended by Dr. Dewees,† and many other remedies by different writers.

If the constitution be delicate, it may be necessary, for the cure of the leucorrhœa, to attend carefully to this point. For this purpose, tonics, vegetable or mineral, should be given, and the diet improved.‡

But by far the most powerful remedies are astringent solutions thrown up the vagina, by means of a syringe or glyster-pipe and bladder.

Several of these may be used with advantage, but those which I have found the most effectual are a decoction of oak-bark, with or without alum, a solution of alum in water (ʒi to ℥iv), of sulphate of zinc§ (ʒi to ℥iii), or of the nitrate of silver‖ (gr. x. to ʒss in ℥ii.)

* Dr. Blundell, Diseases of Women, p. 158.

† Diseases of Women, p. 78.

‡ "In the leucorrhœa from constitutional debility or disordered health, the usual remedies for restoring the vigor of the frame are required. Tonics of every description are admissible, according to the circumstances of the case; but those containing or combined with the mineral acids have most efficacy. The vegetable bitters, or the sulphate of quinine, or the bark itself, may be given three times a day, combined with from ten to twenty drops of the diluted suphuric acid, or double that quantity of the old vitriolic elixir."—*Dr. Locock. Cyclop. of Pract. Med. art. Leucorrhœa.*

This article contains most valuable information, and will amply repay a careful perusal.

§ Edin. Med. and Surg. Journal, vol. xxvi.

‖ For further details on the use of nitrate of silver in leucorrhœa, see Dr. Jewel's excellent little work on the subject All the cases I have seen are confirmatory of his observations, provided only that they are cases of *vaginal* leucorrhœa. In *uterine* leucorrhœa, on the contrary, I have repeatedly seen menorrhagia induced by injections of nitrate of silver, or other astringents.

See also Ricord on the use of the solid nitrate of silver.—*Lanc. Franç.* Sept. 1837.

These proportions are those I generally prescribe, but they will require to be modified according to circumstances.

The injection should be administered slowly, and in the recumbent posture: it rarely causes any pain, and most frequently diminishes the discharge immediately. It should be used twice a day, and the strength gradually increased if the disease continue long. It may be as well to give the first two or three injections tepid, subsequently they may be used cold.

Dr. Huston, of Philadelphia, speaks highly of an injection of the oil of turpentine, suspended in mucilage of flaxseed or elm, used two or three times a day.

A cold shower bath occasionally, or the 'douche' to the loins, will be found very useful. The patient should be much in the open air, and should take sufficient exercise without fatigue.

All circumstances which may keep up the disorder, or reproduce it, must be cautiously avoided. The diet should be properly regulated, as it has considerable influence upon the disease.

Although this plan of treatment will be successful in the majority of cases, yet it must be confessed that we occasionally meet with some which resist all our efforts.

It occasionally happens that, after the disease has been apparently cured, a discharge of more than the usual quantity of mucus from the parts is observed, and this may continue for some time. John Hunter (I believe) called it the 'leucorrhœa of habit,' and the name (whether correct or not) has been since retained. To arrest this, we need only increase the strength of the injection, or change it for another.

Dr. Jewel has noticed a metastasis to the joints in some cases, where the discharge was suppressed suddenly; this will require suitable treatment of the part so affected, and the attack will probably be relieved by a reproduction of the original disease.

Vaginal leucorrhœa is not unfrequently complicated with uterine leucorrhœa, and will in such cases present a combination of those symptoms which are peculiar to each. I have found it better to treat the uterine disorder first, and, when that is relieved, to attempt the cure of the vaginal leucorrhœa in the way just detailed.

The *consequence* of a long continued vaginal leucorrhœa is said to be a relaxation of the parietes of the vagina, favoring the production of prolapsus uteri: it may generally be avoided or remedied by perseverance in the use of cold astringent injections.

It is said that the discharge may cause purulent ophthalmia in the infant, by coming in contact with the eyes during the passage of the head through the vagina:* it may be so, but I have never met with such a case.

* Ed. Med. and Surg. Journ. vol. iii. p. 159.

CHAPTER II.

INFLAMMATION OF THE GLANDULAR STRUCTURE OF THE MUCOUS MEMBRANE COVERING THE CERVIX UTERI.

64. A VARIETY of leucorrhœa has been ably described by Sir C. Clarke, under the title of "*white discharge*," which differs from the disease last noticed by the severer sufferings it entails, the peculiarity of the discharge, and the state of the cervix and os uteri.

65. *Symptoms.*—The principal symptoms are an aching sensation, or pain in the back and lower part of the abdomen, extending round the hips, and down the thighs; increased by calling into action the neighbouring viscera or muscles, and by pressure of any kind. Sexual intercourse is consequently productive of great pain, and is often the first circumstance which excites the attention of the patient.

Irritability of the bladder and rectum are frequently concomitants of the disease.

In some cases, dysmenorrhœa will occur, but more generally the function of menstruation is not disturbed.

"The discharge is opaque, of a perfectly white color; it resembles in consistence a mixture of starch and water made without heat, or thin cream. It is easily washed from the finger after an examination, and it is capable of being diffused through water, rendering it turbid."* "In many instances, the white mucous discharge is much thicker than cream, having the tenacity of glue; and perhaps this is the state in which it comes away from the cervix uteri. When the white opaque mucus possesses the tenacity just mentioned, it does not flow spontaneously, but it remains in the vagina, either until the exertions employed to empty the rectum squeeze out at the same time the contents of the vagina, or perhaps, by remaining in the vagina, it may, by mixing with the mucus of that part, become attenuated."

An internal examination reveals nothing unusual in the vaginal canal, but on pressing the cervix uteri, which feels swollen, the patient complains of severe pain. If this state of the cervix always accompanied the white discharge, the disease could never be mistaken; but many cases occur in which the white discharge, exactly as described in the quotation above, is present, without any puffiness or tenderness of the neck of the uterus.

Judging from the local symptoms generally present, and from the resemblance which the white discharge has to the secretion from the glands in the mucous membrane of the neck of the womb under other

Clarke on Diseases of Females, vol. ii. pp. 5 & 6.
Locock, art. Leucorrhœa. Cycl. of Pract. Med.

circumstances, Sir C. Clarke concludes that it is this glandular apparatus which is the seat of the inflammation.

Gastric derangement generally accompanies the disease, especially if of long standing, and the health of the patient is more or less deranged.

Sir C. Clarke throws out a hint as to the probability of this affection of the glandular apparatus being the precursor of more serious uterine disease, as carcinoma; a supposition which is strengthened by the greater frequency of the latter disease in glandular than in any other structure, and by the destruction of the cervix preceding that of any other part of the uterus in cancer. More direct observations, however, than we at present possess, would be required to decide the question.

66. *Causes.*—These are not very clearly made out: cold, excessive exertion, or irregular habits of life, may give rise to it; and I have seen it the result of a sudden suppression of the menses.

67. *Diagnosis.*—The diagnosis must be formed from the concurrence of the tenderness of the cervix uteri with the white discharge. I have already stated, that discharges of a white color and creamy consistence often occur without this affection of the cervix.*

68. *Treatment.*—The first thing to be done by way of relieving the inflammation, is to abstract blood either by venæsection, leeches to the cervix uteri, or cupping the loins, in proportion to the amount of disease; and to repeat this, if necessary.

The hip bath, or fomentations to the lower part of the abdomen and back, may be used twice a-day, and will be found to second, very beneficially, the effects of the loss of blood. Vaginal injections of tepid water should be given three or four times a-day. There is no remedy from which the patient experiences so much relief and comfort as from this.

The bowels must be kept free, if necessary, by purgatives; and probably castor-oil will answer the purpose best.

If the desire to void urine be very troublesome, a full dose of laudanum may be given, with plenty of mucilaginous fluids for drink.

Should retention of urine occur, catheterism will be necessary to avoid the chance of inflammation of the bladder, as well as to relieve the distress.

It will be proper for the patient to observe the horizontal position, and to rest as much as possible for some days, until the irritation shall have subsided, avoiding scrupulously everything calculated to aggravate the disease.

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* Ante, page 56.

CHAPTER III.

THICKENING OF THE CELLULAR MEMBRANE SURROUNDING THE URETHRA, WITH A VARICOSE STATE OF THE VESSELS.

69. For the first description of this disease we are indebted to Sir C. M. Clarke;* but cases of it must have repeatedly occurred to all engaged in the practice of midwifery.

It rarely, if ever, occurs in young or unmarried females, and by far the most frequently in those who have borne several children; in fact, there is almost always an enlargement of this part in women after repeated child-bearing, even when it does not amount to the painful affection under consideration.

The disease appears to consist essentially in a dilated state of the blood vessels of the part, with hypertrophy of the cellular tissue—just what might be expected from the repeated distension and collapse of the passage in child-bearing, or from increased vascular excitement.

70. *Symptoms.*—A constant sense of uneasiness, or pain on sexual intercourse, is generally the first thing which attracts attention, and the patient complains of fullness and weight at the orifice of the vagina when in the upright position. There is also a distressing desire to evacuate the bladder frequently, arising from the dilatation of a portion of the urethra, forming a small pouch, in which a few drops of urine lodge. This symptom is a source of great inconvenience, and, by interrupting the patient's rest, may produce a decided deterioration of the general health. A mucous discharge always accompanies this disease.

If we turn aside the labia, directing the patient to force down at the same time, we shall be able to detect a portion of the tumified urethra, and with the finger in the vagina we can trace it up to its entrance into the bladder. The part exposed to view is of a dark-red color, and has a spongy feel. If pressed, the swelling and redness disappear, but return when the pressure is removed. There is always some degree of tenderness present. The introduction of the catheter will enable us to detect the pouch before mentioned.

71. *Diagnosis.*—The diagnosis must be formed upon careful examination, both by the eye and the finger.

72. *Treatment.*—The treatment consists in puncturing or scarifying

* Clarke on Diseases of Females, vol. i. p. 259.

the vessels, or in the application of leeches, with cold lotions subsequently. All warm applications have been found to do more harm than good. After a few days, astringent lotions, composed of the sulphate of zinc, alum, acetate of lead, &c. may be used.

When the punctures have healed, and all irritation has subsided, pressure must be made upon the enlarged vessels by the introduction of a piece of wax candle or a roll of linen, which must be allowed to protrude slightly *through* the orifice of the vagina.

The scarification may be repeated if the vessels become again distended, with similar subsequent treatment.

The diet should be mild, and the regular action of the bowels maintained.

The patient should constantly rest in bed, or on a sofa.

CHAPTER IV.

PROLAPSE OF THE VAGINA.

73. THIS displacement, which is sometimes mistaken for prolapsus uteri, is by no means uncommon. It is very rarely, if ever, seen in females who have not passed the middle age, and who have not borne children.

The conditions required for its production are, a relaxed state of the parietes of the vagina, and a protruding force *à posteriori*.

Three modifications of this displacement have been observed, viz: prolapse of the anterior and posterior parietes of the vagina and of its entire circumference.* The two former are connected with the protrusion of other organs, the latter occurs independently.

74. 1. *Prolapse of the anterior parietes of the vagina and of the bladder*, or, as it is also called, *prolapsus vesicæ* or *vaginal cystocele*.

Causes.— The mechanism by which this descent is produced is tolerably intelligible. The vagina, or, according to Siebold, the inner

* In addition to the works of Denman, Burns, Blundell, Boivin, and Dugès, Capuron, Lisfranc, &c. the reader may consult with benefit—

Schacher, Diss. de Prolapsu Vaginæ Uteri. Lipsiæ, 1725.

Strohlin, Diss. de Relaxatione Vaginæ, &c. Argent, 1749.

Loder, Programma I. III. de Vaginæ Uteri Procidentia. Jenæ, 1781.

Richter, Anfangsgründe der Wundarzeneykunst, vol. vii.

Siebold, Handbuch zur Erkenntniss und Heilung der Frauenzimmerkrankheiten, vol. i. p. 762.

membrane only, becomes relaxed from some cause, such as repeated child-bearing, &c., and the urine having been allowed to accumulate, it distends the bladder and forces it downwards, protruding before it the yielding vagina. Every time that this accumulation takes place, the bladder is distended to a greater degree, until complete prolapse or protrusion through the external parts is the result.

75. *Symptoms.*—The patient complains of weight in the vagina, bearing down, a sensation of emptiness and dragging in the lower part of the abdomen, unpleasantness and sometimes difficulty in walking, with more or less dysuria, as the bladder, from over distension, has to a certain degree lost the power of contraction. Several patients have stated to me that they could only complete the evacuation by replacing and supporting the bladder in its natural situation.

On examination, a round, soft, elastic, fluctuating tumor of a red or blueish-red color, is perceived at the orifice of the vagina, varying in size at different times, and which can be greatly diminished by catheterism. When introduced, the catheter requires to be directed downwards. The finger can be passed into the vagina *below* the tumor, but immediately under the arch of the pubis the mucous membrane terminates in a 'cul de sac,' from whence it is reflected over the protruding part. The os uteri can be felt behind and above the tumor, nearly in its natural situation. The surface of the tumor, when large, is smooth, moist, and shining; but when the bladder is nearly empty, it is thrown into transverse folds. There is always an increased mucous discharge.

76. *Diagnosis.*—1. From *prolapsus uteri.* The tumor is soft and of a globular form, communicating a sense of fluctuation to the finger, which may be passed up the vagina, so as to detect the os uteri in nearly its natural situation: whereas in prolapsus uteri, the tumor is firm, resisting, and of a pyriform shape, with the os uteri at the lowest part.

2. From *prolapse of the posterior wall.* The tumor is softer and fluctuating, and the finger passes into the vagina *posterior* to it; but in prolapse of the posterior wall, it can only be introduced *anteriorly.*

3. From *inversion of the uterus.* The tumor is diminished by catheterism, and is soft, smooth, and fluctuating; whereas in inversion it is firm and rough, and the finger is prevented passing into the vagina by the reflected mucous membrane.

77. *Treatment.*—The first and most important point is to prevent any accumulation of urine in the bladder, either by the frequent natural evacuation of it, or by the introduction of the catheter. This alone will speedily diminish the prolapse, and cause it to recede.

Cold applications to the external parts, or dashing cold water over the hips, will be found very useful, and cold astringent injections should be thrown into the vagina twice or three times a-day. In recent cases, this treatment, with rest, will often suffice; but in those of longer

standing, where the prolapse is more complete, mechanical support will be necessary.

This may be afforded by filling up the vaginal orifice either with a piece of tolerably thick wax candle, or by a roll of linen kept *in situ* by being attached to a bandage passing between the thighs—or by distending the vagina internally, so as to prohibit the protrusion of any portion of it; which may be effected by a sponge-tent, or by an elastic gum pessary of the proper size and shape.* Dr. Rognetta, of Milan, has described one which he has found to answer the purpose very well. It is a hollow cylinder of elastic gum, of sufficient length to keep the vagina distended upwards, and to protrude slightly through the orifice, and wide enough to prevent the parietes of the vagina escaping below it. M. Jules Cloquet uses one similar, but flattened and curved slightly. It is about 4½ or 5 inches in length, 3 in breadth, and 1 in thickness. Its concave surface, when introduced, is towards the bladder, and its greatest diameter corresponds to the transverse diameter of the lower outlet. From its size it is manifest that the vagina will be kept just so much upon the stretch as to prevent its prolapse, and yet, from its flattened shape, no inconvenient pressure is made on the bladder or rectum. It is hollow, and open at both ends, to allow of the escape of any fluid which may be secreted.

If there be an objection to the use of a sponge-tent or pessary, on account of the irritation they sometimes excite, or if upon trial they do not succeed, it may be advisable to attempt the radical cure of the disease, especially if the patient be past the age for child-bearing.

This may be done by removing a triangular slip of the mucous membrane (the base of the triangle being at the orifice of the vagina) and bringing the edges of the wound into apposition by means of sutures, just as in the operation for the radical cure of prolapsus uteri.†

By this means the calibre of the vagina is diminished, and when the cicatrization is complete, the tightened mucous membrane will be found to support the bladder in its proper situation. Absolute rest, and cold vaginal injections two or three times a day, will be necessary to keep

* The pessaries used in prolapse of the womb are of no use whatever in prolapse of the vagina; their size and shape, which are well adapted for the former, render them quite inefficient against the latter.

† As most of the females in whom this disease occurs are advanced in life, it may be superfluous to consider the possibility of conception; but when it does happen before such an age, it is an important consideration, as in all probability the passage of the child through the vagina would rupture the cicatrix, and be attended with considerable mischief.

down the inflammation. Catheterism should be performed as often as it may be required to empty the bladder.

It will be advisable to restrain the action of the bowels for a short time, lest the effort should rupture the sutures; and when an aperient is necessary, it will be best to administer it in the form of an enema.

Another plan has been recently proposed by M. Jobert of Paris. "He encloses within two curved transverse lines an oval space, more or less considerable, in the posterior surface of the tumor or the anterior surface of the vagina, by means of caustic, so as to form an isolated spot, repeating the application of the caustic till the mucous membrane is destroyed. He then pares the edges with scissors or a bistoury, draws them together, and maintains them in apposition by means of straight needles, the points of which are removed, and a twisted suture."

He operated thus on a patient, July 23, 1838, and on two others subsequently, with success.

78. II. *Prolapse of the posterior wall of the vagina and the rectum*, or *vaginal rectocele*. The mechanism by which this displacement is produced resembles that in vaginal cystocele, except that the distending force is not derived from the bladder, but from the rectum.

It is invariably a consequence of habitual and prolonged constipation; the accumulated fæces distend the rectum to a great size, and as the vagina, being loose and relaxed, offers no resistance, a very little effort protrudes the tumor through the external orifice. As the distension is more prolonged, and the intervals of relief more distant than in the former species, the vagina returns less readily to its natural state; and even after the removal of the cause of distension, it continues loose and ready to prolapse on the least expulsive force being used.

79. *Symptoms.*—The symptoms are much the same as in the former species: the patient complains of weight at the lower outlet, uneasiness and distress in walking, &c. In addition to which symptoms, there is a slight mucous discharge.

Some relief from the uneasiness and inconvenience is obtained by the evacuation of the rectum.

On turning aside the labia pudendi, a globular tumor is discovered occupying the orifice of the vagina, compressible but not fluctuating, and through the parietes of which, scybalæ may sometimes be felt.

The finger passes readily *anterior* to the tumor, and the os uteri is found at about the usual height in the pelvis; *posteriorly* the finger is arrested by the mucous membrane, where it is reflected downwards and forwards upon the tumor. When the prolapsed vagina is distended, the surface of the mucous membrane is smooth; but when the rectum has been emptied, it is thrown into rugæ, but by no means so minute and regular as those on the anterior parietes.

80. *Diagnosis.*—This displacement may be distinguished: 1 From *prolapse of the anterior parietes* of the vagina, by its situation at the

posterior part of the orifice of the vagina, and by its permitting the finger to pass anteriorly. The tumor is compressible, but not fluctuating as in vaginal cystocele, and it diminishes after fæcal evacuations.

2. From *prolapsus uteri.* The finger introduced into the vagina will detect the os uteri at nearly its usual elevation, instead of at the lowest part of the tumor, as in prolapsus uteri. The tumor is also softer, more compressible, and more variable in size.

3. From *inversion of the uterus.* This tumor is softer, and admits the passage of the finger anteriorly, so as to discover the os uteri within the pelvis; whereas in inversion, the "cul de sac" of the inverted vagina arrests the passage of the finger.

81. *Treatment.*—The treatment consists, as in vaginal cystocele, in removing the cause, preventing its recurrence, and in restoring the tone of the mucous membrane by cold and astringent applications, or in affording mechanical assistance by pessaries,* or by a diminution of the calibre of the vagina. The bowels should be kept free by enemata, and rest should be enjoined.

The *consequences* of this disease are, excoriation of the exposed membrane, persistent leucorrhœa, and relaxation of the vaginal parietes, permitting prolapse of the womb.

82. III. *Prolapse of the vaginal canal, either partial or entire,* without the protrusion of the bladder or rectum.

It is very rare, indeed, to find simple prolapse of the whole circumference of the vaginal mucous membrane. I have seen one case where the two species I have described alternated,—one day there would be prolapse of the anterior wall, and the next of the posterior.

The mechanism is by no means so easily explained as in the other species. It appears to be owing to a loose state of the vaginal parietes, owing sometimes to distension, sometimes independently of it, and to the exertion of expulsive force.

83. *Symptoms.*—The symptoms resemble those just described, only that the bladder and rectum are unaffected, and the evacuation of their contents does not diminish the tumor.

When the entire circle of the vagina is prolapsed, on examination,

* In the Gazette Medicale de Paris, for April, 1836, there is a memoir by M. Malgaigne on prolapse of the posterior wall, or vaginal rectocele, in which, after describing the symptoms (constipation, dyspepsia, emaciation, &c.) and the protrusion of the vagina, he describes (not very clearly indeed) a new pessary of a funnel shape ('en entonnoir,') large enough to distend the vagina and prevent the prolapse. In truth, the varieties of form are of little consequence; the principle to be observed, if we wish to succeed, is to distend the vagina longitudinally, so that there shall be no part of the parietes sufficiently loose to prolapse.

the projecting tumor is seen to spring from the whole circumference of the vaginal orifice, and an opening is found at its lower part leading up to the os uteri, which, in severe cases, is found more or less dragged down from its natural situation.

When the prolapse is partial, the mucous membrane projects in a fold, anteriorly or posteriorly.

The extent of this species of prolapse varies much; it may be slight, or it may protrude considerably. Noel* relates a case where the prolapse reached down to the knees.

The absence of the bladder and rectum can generally be ascertained by grasping the tumor with the finger and thumb.

84. *Diagnosis.*—In a recent prolapse of this kind, the diagnosis is not difficult, on the grounds stated in the text; but where the tumor has been long exposed, and has become hard and swollen, the orifice inferiorly may lead us to mistake it for prolapsus uteri, and the error can only be avoided by the further introduction of the finger, and the discovery of the os uteri.

85. *Treatment.*—The remedies to which we may have recourse are the same as those recommended for the cure of the other varieties, viz. the replacement of the parts, and their retention by a pessary, with fomentations if the swelling be considerable, and afterwards astringent injections. Or, if the patient be past the age of child-bearing, a flap of the mucous membrane may be removed, and the edges united so as to diminish the calibre of the vagina.

The *consequences* of this form of the disease, when not remedied, are rather more serious than those of the partial kind. It offers an impediment to sexual intercourse and to conception; renders the evacuation of urine and fæces difficult; gives rise to inflammation, swelling, varicose veins, and excoriation of the vagina; to excessive menstruation, leucorrhœa, and prolapse of the uterus.

CHAPTER V.

ABSCESS BETWEEN THE VAGINA AND RECTUM.

86. This is a complaint not very frequent, nor confined to any particular period of life.

Causes.—It is most commonly the result of violence done to the parts by a fall or kick, &c. or by the passage of the child's head in difficult labor. It does occur, however, quite independent of external causes. In a patient I had an opportunity of treating in the Meath

* Journal de Medicine, vol. li. p. 60.

Hospital, through the kindness of my friends Drs. Graves and Stokes, it came on immediately after the cure of a severe attack of acute uterine leucorrhœa, without any appreciable cause.

It may also be caused by an extension of inflammation from the external parts of generation.*

87. *Symptoms.*—By whatever cause produced, the disease gives rise to severe pain in the part; a sensation of weight, tension, and bearing down, greatly increased in the upright position, and by the act of defæcation. If we examine internally at this stage, we find considerable swelling in the cellular tissue behind the vagina, either between it and the rectum, or a little to one side. The parts are exquisitely tender to the touch, and the tumor is hard and tense.†

* Davis's Obstetric Medicine, vol. i. p. 145. Chomel, Lancette Française, June, 1838.

† A woman, sixty-eight years of age, with chestnut hair and a dark complexion, of middle size, and a muscular system moderately developed, was admitted at the Hotel Dieu of Paris, in the service of M. Louis, the 28th of November, 1837. The catamenia appeared at the age of fifteen, and ceased at that of forty-five, and were always regular. She was married soon after their appearance, and at the age of sixteen she gave birth to a child, and two days after her confinement she walked to the church. Since the age of fifteen she has been suttler to the army; and in her earlier years she was much exposed to cold and wet. She has always enjoyed good health, and does not remember to have ever been confined to her bed two successive days.

She enjoyed her usual health in the latter part of the month of September; is not aware of having been exposed to any noxious influence, when she was suddenly awakened one night by a very acute pain in the lower part of the abdomen: leeches and poultices were applied, but she continued to suffer during fifteen days. She was feverish, she lost her appetite, and even had diarrhœa and involuntary stools. She kept her bed, and was brought to the hospital in a carriage.

On the 29th of November she was lying on her back; her countenance and lips pale, her tongue moist and clean, thirst moderate, and very little appetite. The abdomen below the navel was swollen, painful on pressure, dull on percussion in the lower part, where a tumor was distinctly felt in a length of two and a half inches, and in a breadth of two inches; not moveable, not easily defined. She experiences, and has experienced since the cessation of the acute pains, dull pains in that region. The stools liquid and involuntary, the urine voided without pain, and under the influence of the will, eight or ten times during the course of the twenty-four hours. A catheter was introduced with little difficulty. The pulse 88 and regular, the temperature of the skin slightly elevated—the sleep light and broken.

The inflammation runs rapidly into suppuration; twenty-four or forty-eight hours being often sufficient for the formation and escape of matter. The pain, weight, and bearing down are then diminished, but other symptoms, peculiar to the formation of an abscess, are developed. A vaginal examination will now detect the softening of the tumor, with fluctuation, and the thinning of some point in the parietes of the vagina or rectum.

If the disease be allowed to progress naturally, an opening is so made into the vagina or rectum, through which purulent matter, having generally a fœtid odour, is discharged.* After this, the pelvic tumor subsides, and if the sac be not obliterated, the discharge may go on for a considerable time. Occasionally the orifice closes, and allows the abscess to refill—to be again evacuated by the same way.†

During the inflammatory period, there is generally some febrile disturbance; the patient complains of weariness and aching limbs, of head-ache and thirst; the pulse is quick, and there is a good deal of restlessness and irritability. The occurrence of rigors points out when

Two soups, a "tisane," and an enema were prescribed. The 30th November the stools were under the influence of the " and the patient sat up; but the 2nd of December the stools became involuntary. No alteration was perceived in the tumor, but the patient lost flesh and strength. For four days the patient had not been examined, when, on the 20th of December, no tumor was to be found. She died the 1st of January, 1838. At the autopsy a tumor, large as a hen's egg, was found in the superior part of the left lateral ligament, two and a half inches from the median line of the uterus. From an excision in the walls of the tumor there flowed an ounce and a half of yellowish liquid, and on the application of heat, flocculent matter appeared in the liquid. A cavity was found between the uterus, vagina, and rectum, lined by a false membrane, still covered by purulent matter, bounded above by the peritoneum, and below by the fascia of the perineum. This cavity communicated both with the vagina and rectum. No trace of cancerous matter could be discovered, but in the median line there was a tumor, hard, pearly white, large as a small egg.

* The abscess does not always open at the point we should anticipate. From the looseness of the cellular tissue, the matter is very apt to burrow, and escape at some distant part. Fistulous openings may be found outside the orifice of the vagina, as well as in its walls, or in those of the rectum.

† Sir C. Clarke relates cases of this kind, where a fistulous opening was formed, and offensive matter discharged whenever pressure was made. One patient was cured by preventing the accumulation, and improving the constitution.

matter is formed, and then the other symptoms subside, followed by debility and exhaustion if the discharge be allowed to persist for any length of time, and occasionally by irritative fever. The effects of the complaint upon the patient's constitution will, of course, be greater when it occurs during the recovery from parturition.

Some of the inguinal glands occasionally become enlarged during the acute stage, and return to their natural state on the subsidence of the local affection.

88. *Diagnosis.*—The feeling of weight at the external parts, and the bearing down, might at first give rise to suspicions of *prolapse* of the *uterus* or *vagina*; but on making a vaginal examination, the os uteri will be found at its usual elevation, whilst at the posterior part of the vagina a tumor will be discovered, hard and tender, or perhaps fluctuating; and which cannot be mistaken for *scybala* in the rectum, if we administer an enema previous to making the examination.

It may be necessary to wait some days before we can distinguish this from other tumors in the same situation.

89. *Treatment.* —At an early period an attempt may be made to arrest the disease by the application of leeches to the vulva or perineum, followed by fomentations or poultices. If we fail in attaining this object, fomentations, poultices, or vaginal injections of warm water may still be applied to hasten the suppuration.

When matter is formed, it will be expedient to puncture the abscess at the lowest part, and evacuate the fluid completely, in order to prevent it burrowing and opening in some inconvenient situation. If the orifice be sufficiently large, the abscess will generally heal without much trouble.

The vagina should be washed out with a syringe twice a-day, and a piece of sponge may be introduced, so as to compress the tumor and prevent the accumulation of pus. Should a fistulous opening be formed, it must be enlarged, as in fistula of other parts.

The bowels should be freed by enemata daily.

When the disease comes on after delivery, and the constitution of the patient appears to suffer, it will be advisable to give some tonic medicine, and allow a nutritious diet.

CHAPTER VI.

TUMORS OF THE PELVIS EXTERNAL TO THE VAGINAL CANAL.

90. The annals of midwifery record numerous cases of difficult labor owing to these tumors, and some in which the extraction of the child, entire or mutilated, has been rendered impossible by them.

This is not the place to enter upon the consideration of their

influence upon labor, and therefore I shall content myself by referring my reader to the works which so treat of them.*

They are generally found on one side of the rectum and vagina, or between these two organs, and very rarely anterior to the vagina. They may grow underneath the mucous membrane of the vagina; in the cellular membrane behind the vagina; or they may be more immediately attached to some part of the osseous frame-work of the pelvis, whether the product of diseased periosteum or not.

In some rare instances, they occupy the bladder or rectum.

The nature of these tumors varies considerably. Most frequently they consist of cysts, containing a fluid differing in color and consistence in different cases. Two of Mr. Park's cases contained a bloody serum with membranous flakes.

They are sometimes fibrous and fleshy, or of a more dense fibrous texture, with particles of calcareous matter scattered through them.

Occasionally they are of a malignant character, either fungous or, more rarely, carcinomatous.† In the latter case, there is generally disease of the uterus also.

An enlarged ovary not unfrequently occupies the recto-vaginal septum.

The form of the tumor depends chiefly upon its situation, and upon the pressure of the surrounding parts upon it, so that it may be round, or flat, or polypoid.

91. *Symptoms.*—The growth of these tumors is very insidious and

* Perfect's Cases, vol. ii. p. 241.
Baillie's Morbid Anatomy, p. 427.
Baudelocque's Midwifery, (by Heath), vol. iii. p. 207.
Van Doveren, Specimen Observ. Acad. cap. ix.
Dr. Dewees' Case, Ed. Med. and Surg. Journ. vol. i. p. 20.
M. Pelletan, Clin. Chirurg. vol. i. pp. 203, 224, 234.
Mr. Park, Med. Chir. Trans. vol. ii.
Journal Complement, vol. xxxvi. p. 434.
Dict. des Sciences Med. vol. lxvi. p. 469, art. Vagina, by M. Murat.
Davis's Obstetric Med. vol. i.
Dr. Merriman. Med. Chir. Trans. vol. x. p. 50.
Dr. Blundell. Diseases of Women, p. 22.
Dr. Montgomery. Dublin Journal, vol. vi. p. 418.
Mr. Ingleby. Ed. Med. and Surg. Journ. Jan. 1836. Facts and Cases, p. 119.
Lond. Med. Gazette, vol. ix. p. 119
Ibid. March 16, 1839.
Mr. I'on. Lancet, July 28, 1838.
Mr. Leon. Lancet, July 11, 1840.

† Journ. des Connoissances Med. July, 1838. Lancet, March 31, 1838. Ingleby's Facts and Cases, &c. p. 119.

gradual, in most cases giving rise to no symptoms at all, and remaining undiscovered until some mechanical difficulty caused by their presence, or an examination for another purpose, leads to their detection.

The mechanical symptoms may rise from pressure on the rectum or bladder impeding the evacuation of their contents, or from the obstacle to sexual intercourse; and labor may be rendered tedious or impracticable by the diminution in the calibre of the vaginal canal. I have once or twice found the uterus very much displaced in consequence of the lateral and upper portion of the pelvis being occupied by one of those tumors. In addition, the patient will occasionally complain of a weight in the pelvis, and perhaps of darting pains. There is generally an increase in the natural secretion of the part, but seldom to any great amount.

The tumor will be discovered by an internal examination, and its situation, extent, and sometimes its character, may be determined, Many years may elapse without any change in the disease, with very little inconvenience, and no danger. It has sometimes happened that the encysted tumor has been ruptured, and it either refilled or healed up. In the fungous or carcinomatous tumors alone have we to fear ulceration, and when it does take place, it is accompanied by a series of symptoms to be hereafter described. (*See Cancer Uteri*).

92. *Diagnosis.*— Any of the circumstances which have been mentioned, as calling our attention to this disease, requires an immediate internal examination, which will discover the seat and generally the nature of the obstruction. The acute symptoms which accompany the formation of an *abscess between the vagina and rectum*, the time of its occurrence, its cause, and the peculiar course will enable us to distinguish the tumors I have been describing from that disease. The state of the uterus should be carefully ascertained, as it may throw light upon the diagnosis.

93. *Treatment.*—If the patient be not pregnant, nor in the way of becoming so, and if the symptoms (mechanical and pathological) be slight, it will scarcely be adviseable to interfere, unless indeed, the tumor be of that form and in that situation which will render its removal easy (as, for example, in polypus of the vagina), or its contents of that character which will afford a probability of their evacuation by puncture, and of the subsequent obliteration of the sac. In such cases, either operation (excision or puncture) may be performed, and in the manner most likely to ensure success.

But the case is otherwise if the patient be pregnant. From a careful comparison of the cases on record, with the results of different plans of treatment, it is evident that if the tumor contain a fluid, it ought to be opened,* or if it be solid and removable without much difficulty,

* "Three years ago I was called to a case of difficult labor, but made no examination, the child having been delivered by the perforator

it should be excised previous to the commencement of labor. If neither be practicable, other measures must be adopted at the time of delivery, and these will be found detailed in all the standard works on midwifery.†

and crotchet prior to my arrival. A year afterwards the patient was delivered of an immature but living child. The succeeding labor commenced on Friday, the 26th Sept. 1835, and her surgeon was summoned about 10 P.M. My attendance was requested at 8 o'clock the following morning. The pelvis, from the brim to the coccyx was very nearly filled by a large and apparently unyielding tumor (not unlike a full sized fœtal head) bulging into the rectum, and, from its tension supposed to be altogether solid. The head of the child resting over the *ossa pubis*, could barely be distinguished, and the pains had been very forcible the nine preceding hours. A long trocar was passed (*per rectum*) into the tumor obliquely upwards, and on being withdrawn, ten or twelve ounces of dark serous fluid tinged with blood gushed out forcibly through the canula. The sac immediately collapsed, but the pain unfortunately disappeared, and after waiting three hours the forceps were applied, and the patient was promptly delivered of a living child. She recovered without a single bad symptom."—*Ingleby's Facts and Cases in Obstetric Med.* p. 129.

"On reviewing all the circumstances of the cases, the principal facts are these:—that a solid ovarian tumor was punctured through the vagina—that this simple injury was followed by inflammation—that this inflammation produced suppuration of the cyst and sloughing of the tumor—and that the case terminated favorably."—*Mr. Arnott's Clinical Lecture, Med. Gaz. March* 16, 1839, p. 916.

See also Mr. Neith's Case, Lancet, Feb. 6, 1841.

† "Tumors which cannot be raised above the brim may be treated by puncture, incision, or extirpation; or opened subsequently to delivery, with caustic. The cæsarean operation, and the induction of premature labor, may also be included as objects of treatment."—*Ingleby's Facts and Cases in Obstetric Med.* p. 121.

SECTION II.—DISEASES OF THE UTERUS.

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94. THE diseases of the uterus may be divided into Functional and Organic.

The functional derangements of the uterus are divided into three classes:

1. Amenorrhœa, including absent, suppressed, and vicarious menstruation.
2. Dysmenorrhœa, difficult or painful menstruation.
3. Menorrhagia, or excessive menstruation, whether blood accompany the catamenia or not.

Power, in his 'Essays on the Female Economy,' divides these disorders into three classes—A. Deficiency of the menstrual actions. B. Excess of the menstrual actions. C. Irregularity of the menstrual actions.

Denman, Burns, Hamilton, Dewees, Locock, and the generality of British authors, divide the disorders of menstruation as in the text. Dr. Blundell adds a chapter on offensive catamenia.

Capuron, Nauche, Boivin and Dugès, adopt a similar division.

Carus includes, among the irregularities of menstruation, delayed menstruation, incomplete menstruation, too early menstruation, and suppressed menstruation.

Siebold has a chapter on the precocious and tardy developement of the menses; on the too excessive, or scanty discharge; on painful menstruation, and on vicarious menstruation. To these Joerg adds, menstruation repeated too frequently, or not often enough. Mende adopts an arrangement nearly similar.

It is impossible to make any arrangement which will include every variety; there will always remain cases belonging to neither class, apparently partaking of the characteristics of two or more, and which nothing but an extended experience can elucidate.

There is a source of error which it is right that I should point out, and no opportunity is so fit as when we are considering the classification of these disorders.

The term used by females to express the proper performance of the function of menstruation, is generally "being regular," and as, from the delicate nature of the investigation, both parties are anxious to

terminate it as quickly as possible, an assertion of "regularity" is often given and received, when a little more enquiry would have discovered "irregularity" in all the circumstances, except perhaps in the periodical appearance of the discharge. It should never be forgotten, that variations in the *quantity* and *quality* of the discharge are as important, and require as much attention, as any other peculiarity.

CHAPTER I.

AMENORRHŒA.

95. There are two very distinct classes of amenorrhœa;* one, where the catamenia have never appeared, and which has received the name of "*emansio mensium*;" and the other, in which, having continued regularly for some time, they have ceased; this is called "*suppressio mensium*." A third class might be formed, consisting of those cases in which menstruation is irregular, as to time, quantity, or quality, but without actual suppression.

It will be necessary to consider these classes in detail.

96. *Emansio mensium, or absent menstruation.*—Great difference exists as to the period of the commencement of menstruation, not only in different countries, but also in our own. The most general age is about fifteen, but it occurs much earlier, or may be delayed to a much later period.† These variations will be found to correspond pretty exactly with the proportionate developement of the body and the

* Consult Denman's Midwifery, p. 108.
Burns' Midwifery, p. 167.
Campbell's Midwifery, p. 424.
Davis's Obstetric Medicine. vol. i. p. 293.
Manning on Diseases of Females, p. 63.
Blundell on Diseases of Women, p. 243.
Dewees on Diseases of Females, p. 106.
Cyclop. of Pract. Med. art. Amenorrhœa.
Capuron, Mal. des Femmes, p. 105.
Dict. de Med. et Chir. prat. art. Amenorhée.
Boivin and Dugès. Diseases of the Uterus, &c. (Trans.) p. 421.
Siebold's Frauenzimmerkrankheiten, vol. i. p. 109.

† Osiander found the average age near Göttingen to be fourteen years.

In an essay on "The Natural History of Menstruation," pub-

genital system. There are also malformations of the uterine system, which have an important effect upon this function. Lastly, the uterus may be acting fairly enough, although the product be not the menses. We shall notice these three varieties somewhat more particularly.

lished in the Edinburgh Medical and Surgical Journal, vol. xxxviii. p. 277, Mr. Roberton of Manchester has given a mass of very valuable information on this subject. Out of 450 females, he found that—

10	menstruated	for the first	time at	11 years old.
19	...	...	...	12
53	...	...	...	13
85	...	...	...	14
97	...	...	...	15
76	...	...	...	16
57	...	...	...	17
26	...	...	...	18
23	...	...	...	19
4	...	...	...	20

There are instances of still earlier menstruation on record. There is a case by Dr. Martin Wall, in the 2d vol. of the Med. Chir. Trans. of a child who menstruated at nine months old, and continued 'regular' subsequently; and another in the American Journal of the Med. Sciences for November, 1832, by Dr. Le Beau of New Orleans, of a child born with marks of puberty, and in whom the catamenia appeared at three years old, and were afterwards regularly discharged. Additional cases and references may be found in the writings of Lobstein, Meyer, Plouquet, &c.

Similar cases have been recorded by Perfect, Mem. of Med. Society, vol. iii. p. 593. Sir A. Cooper, Med. Chir. Trans. vol. iv. p. 204. M. Kriegs, Caspars Wochenschrift, June, 1838. Suscarind, L'Experience, June, 1838. And Peacock, Med. Gaz. June 3, 1840.

As to the effect of climate, it is stated by all, or nearly all medical authors on this subject, that the hotter the climate, the earlier the development of the menstrual function; and vicê versâ, the colder the climate, the later the menstruation. It is said to commence at eight or ten years of age in the East Indies, and about twenty in Greenland. Its duration being pretty equal, the women of hot countries who are mothers at ten become old women at thirty; whereas in colder climates, menstrual life is considerably prolonged.

This, I say, is the sum of what is generally stated; and like many other doctrines, it is received as true, to avoid the trouble of investigation. Thanks to the indefatigable industry of Mr. Roberton, however, the question has been at last fully examined, and as far as the testimony of non-professional travellers is valid, it is established that

97. (*a*) *Amenorrhœa from congenital malformation*.—The influence of the ovaries upon the menstrual secretion has latterly been a subject of great interest to physiologists. It is now believed that not

the same variation (as to the commencement of menstruation) which is observed in these countries, exists every where; but that, as a rule, it is neither so much earlier in hot climates as has been supposed, nor so much later in cold ones.

The fact which has probably led to this error is the intercourse between the sexes, which takes place at a scandalously early age in hot climates, and hence the instances (not of every-day occurrence) of maternity at ten years old. I must refer to the essay itself for further details.

I shall only now extract from it the age at which menstruation ceased in 77 individuals:—

In 1	at the	age of	35 years.
4	...	...	40
1	...	...	42
1	...	...	43
3	...	...	44
4	...	...	45
3	...	...	47
10	...	...	48
7	...	...	49
26	...	...	50
2	...	...	51
7	...	...	52
2	...	...	53
2	...	...	54
1	...	...	57
2	...	...	60
1	...	...	70

Examples of late menstruation may be found in the Med. Gaz. for June, 1838, and in the Brit. and For. Med. Review for Oct. 1840, p. 560.

M. Marc d'Espine has published a valuable essay on puberty, in the Arch. Gen. de Med. for Sept. and Oct. 1835, to which I refer the reader.

In a perfectly healthy female, the catamenia ought to be, and are thrown off without concomitant suffering; but in the present state of society, this is not generally the case. For some days previous to the eruption, the patient is liable to headache, langour, and heaviness; she is indisposed to exertion, and complains of pain in the back, loins, and down the thighs. Occasionally there is uneasiness and a sense of constriction in the throat, about the thyroid gland. There is a pecu-

only are they concerned in the process of generation, but that they are the efficient cause of menstruation.* We know that very considerable

liar dark shade over the countenance, and especially underneath the eyes. The cutaneous perspiration has a faint sickly odour. The mammæ are enlarged and often painful: and digestion is somewhat impaired, and the appetite fastidious. After these symptoms have been present for a day or two, the menses appear, and the uneasiness diminishes. It occasionally happens that the first or second period will pass without any discharge in healthy females. It lasts from three to six days, and from four to six ounces of fluid are discharged.

The catamenia ought to return every twenty-eight days, except during gestation and lactation, when they are altogether absent.

Dr. Gall has remarked that the majority of women menstruate during the first or last eight days of each month.

If the internal genital organs be examined during a menstrual period, the uterus will be found swollen and vascular, its structure less dense than usual, and its lining membrane injected, floccy, and bedewed with menstrual secretion.

The ovaries and fallopian tubes are also swollen and very vascular.

A correct representation of this state will be found in Dr. Hooper's work, 'On the morbid Anatomy of the Uterus,' pl. 1, fig. 2.

M. Fricke has published an account of thirty-four experiments (made on twenty-four women) to ascertain the temperature of the vagina and uterus before and during menstruation, and during pregnancy. The conclusions to which he arrives are, 1. That the temperature of the external air affects the axilla, but not the internal parts. 2. That the vagina is always warmer than the axilla and uterus; but that the uterus is warmer than the axilla. 3. That menstruation and pregnancy have little or no effect upon the temperature of the vagina.—*Brit. and For. Med. Rev.* April, 1839, p. 549.

* Dr. Freind, in his Emmenologia (1729), alludes cursorily to the influence of the ovaries upon menstruation.

Dr. Power, in his "Essays on the Female Economy," attributes menstruation entirely to the action of the ovaries. He conceives that gestation is the natural condition of the female genitals; "that a woman menstruates because she does not conceive; that certain changes take place in the ovarian vesicles, preparatory to the transmission of the ovum; and that parallel changes are taking place in the uterus, which may issue in the formation of the decidua;" but that "if the stimulus of impregnation is denied, this increased action is not carried to a sufficient height to procure properly the effect; nevertheless it is sufficient to give rise to the effusion of a fluid, *which fluid is the menstrual fluid.*"—(p. 19.) Again he says, p. 28, "the efficient cause of menstruation may be defined, 'an imperfect or disappointed action of the uterus, in the formation of the membrane

changes take place in them, as well as in the uterus, at puberty,* and at the cessation of menstruation. In Mr. Pott's case, of a female from whom the ovaries were removed, menstruation ceased, although previous to the operation it had occurred, accompanied with all the signs of puberty. Cases have occurred where the ovaries have become diseased, so that their structure has been completely destroyed† or atrophied,‡ and the effect had been the same; and in some cases of persistent amenorrhœa, which have been examined after death, the ovaries were absent.§ From these cases, it is clear that absence of the ovaries may be the cause of amenorrhœa.

(decidua), which is requisite for its connexion with the impregnated ovum.' "

Dr. Lee, Mr. Girdwood, MM. Gendrin, Chereau, Raciborski, and Dr. Tyler Smith have revived Dr. Power's view of menstruation, and it seems now pretty well established that at each menstrual period a Graafian vesicle is evacuated, and that this is the essential part of menstruation. I have given the facts and conclusions in the chapter on menstruation of my work on the Theory and Practice of Midwifery.

* Boivin and Dugès, p. 26. Locock, Cyclop. of Pract. Med., art. Amenorrhœa.

† My friend, Dr. Montgomery, has related to me the history of a case of this kind which came under his care. The patient had menstruated regularly, up to the period of her admission into Sir P. Dun's Hospital for some obscure abdominal affection. After this time, amenorrhœa supervened, and continued until her death. Upon making a *post mortem* examination, it was discovered that the patient had but one ovary, and that it had become completely disorganized. The preparation is in Dr. Montgomery's museum.

‡ Morgagni, Epist. 46, art. 20. Frank de Retentionibus, sec. 869.

§ Case by Mr. Cripps of Liverpool, of perforation of stomach and peritonitis, Lancet, June 30, 1838, p. 478. "The mammæ were but slightly developed; the abdomen was distended almost to bursting. There was a total absence of all the other appearances which ordinarily characterise puberty. The mother had previously informed me that her daughter had once been unwell, which was about two years since; but on further inquiry I ascertained that the menstruation was very questionable, as the discharge had been but very slightly colored, and not attended with any of the other phenomena which usually indicate the accession of the catamenia." "A remarkable circumstance in the case was the *non-existence of the ovaria*; a small process of peritoneum was given off from each upper corner of an imperfectly developed uterus; there was not even a per-

The patients with whom this is the case may have the body generally well developed and healthy, the circulation active and regular, and the organic functions (save one) fully performed. But the breasts are not prominent; the genital characteristics and sexual propensities are not developed; the voice is deeper than usual; a slight beard appears on the upper lip, and there is a mixture of masculine with feminine peculiarities.

But although the ovaries be well developed, other organic deficiencies may equally give rise to amenorrhœa. The uterus may be irregularly or incompletely developed,* or absent altogether:† the canal through the cervix may be impervious,‡ or the os uteri may be covered by a membrane;§ the vagina may be absent,‖ the sides adherent, or

ceptible rudiment of the fallopian tube." The patient, æt. 18, died of peritonitis, resulting from perforation of the stomach.

* Siebold, Lauth, Stein, Chaussier, Andral, Lisfranc, &c.

† Dr. Chew, American Jour. of Med. Sciences, May, 1840.
Lond. Med. Journal, vol. ii. p. 178.
Lancette Francaise, March, 1839.

‡ Dr. Owen, Lancet, Oct. 14, 1837.
Dr. Martin. Bull. Med. Belge, Feb. 1838.
London Med. Journal, vol. iv. p. 243.
M. Hatin. Journ. des Connois. Med., April, 1839.

§ Macintosh. Pract. of Physic, &c.

‖ A very interesting case of amenorrhœa, from congenital absence of the vagina, together with a novel method of cure, is related by M. Amussat, in the Gazette Medicale for December 12, 1835. The case was shortly this: a young lady, æt. 15, was in a bad state of health, as was supposed from the non-development of the catamenia, and was brought to Paris to consult MM. Boyer, Marjolin, Majendie, and Amussat. They found that an effort at menstruation took place every month or five weeks, but without any discharge. The abdomen was swollen, and the patient suffered great agony at each recurring period. On examining the parts of generation, they discovered the orifice of the urethra, but no vagina. The finger introduced into the rectum detected a large and fluctuating tumor at the upper part of the pelvis, and when a sound was at the same time passed into the bladder, the walls of that viscus and those of the rectum were found in such close apposition, that it was conceived impossible to form an artificial vagina with the knife, on account of the danger of wounding the bladder or rectum. All the medical attendants, except M. Amussat, gave up the case as hopeless, but with rare hardihood and skill he proposed to separate the contiguous organs by traction, without using the knife. He commenced by depressing the mucous membrane of the vulva with the points of his fingers, in the situation where the

the orifice closed by adhesion, false membrane, or an imperforate hymen.*

orifice of the vagina ought to have been, and the membrane giving way, he gradually advanced in the cellular interspace between the urethra and rectum—guided by a sound in the former, and his finger in the latter; and retaining the ground he gained each day by a sponge-tent, until at length he reached the tumor in the pelvis, which he first punctured with a trocar, and afterwards more largely opened with a bistoury, giving exit to a large quantity of dark jelly-like fluid. An additional quantity was discharged by a spontaneous opening into the rectum. The artificial os uteri was kept open for some time by a canula. The operation of course caused severe pain and excessive constitutional suffering; but ultimately, owing to the care and skill of M. Amussat, the patient perfectly recovered, and at the time of his writing the paper, was menstruating regularly, enjoying good health, and about to call into play other uterine functions. For a more detailed account of this very important case, the reader is referred to the original paper.

In a somewhat similar case, related by Dr. Coste (Journ. des Connoissances Méd., and condensed in Johnson's Med. Chir. Review), where the situation of the orifice of the vagina was marked by a *raphe*, and in which menstruation from the age of thirteen had taken place through the urethra, he introduced a director into that canal, and divided its inferior parietes, extending the incision downwards to the part which ought to have been occupied by the vagina, and inwards towards the uterus. At the termination of this incision internally, Dr. C. discovered the cervix and os uteri. A roll of linen at first, and subsequently bougies were introduced, so as to prevent adhesion, and a very satisfactory vagina was the result.

See also a case quoted by Foderè, from the 'Causes Célèbres,' and another in Beck's Jurisprudence, quoted from the New York Medical and Physical Journal. Ryan's Journal, June 24, 1837, p. 373. Brit. and For. Review, April, 1840, p. 531.

* Med. Commentaries, vol. ii. p. 187; vol. iii. p. 194; vol. ix. p. 330; vol. xiii. p. 278. American Journ. of Med. Science, Nov. 1830, p. 265; and Nov. 1831, p. 248. Annals of Medicine, vol. vi. p. 347. Med. Facts and Obs. vol. viii. p. 153. Journ. des Connois. Med., Feb. 1838. Dr. Haslan. Baltimore Med. Recorder, April, 1830. Van Camp. Bull. Med. Belge, August, 1839. Carter. Lancet, April 15, 1837. Lancet, March 16, 1839. Mr. Mapleton, Med. Gazette, June 26, 1840.

There are examples on record of very narrow vaginal canal, rendering the transmission of the menses slow and difficult, and complete coition impossible, which, nevertheless, underwent a natural cure

When the uterus is absent altogether,* the development of the body generally may be unaffected, and the health may be perfect; but in other cases, where the *exit* only of the menses is prevented, the secretion may take place, distending the uterus to an alarming degree,† and ultimately ending in rupture of that organ, and the discharge of its contents into the peritoneum, giving rise to fatal peritonitis. The health in these cases suffers much; the outward signs of puberty are present, but the patient becomes pale, thin, and delicate, loses her appetite, has pain in the back and abdomen, increased every month, with the addition of an endeavour to force downwards. The abdomen also increases in size, and becomes tender.

These periodical efforts at menstruation will enable us to distinguish between absence of the uterus or ovaries, and an imperforate passage; and in all such cases, where the *molimen* exists without the discharge, a careful examination should be made.

98. *Treatment.*— It is clear that nothing can be done when the uterus and ovaries are absent, or when the structure of the latter has been atrophied or destroyed.

But where an obstacle exists to the escape of the menses, it may in most cases be removed; and as death is the result of non-interference, it should be attempted.

If the canal of the cervix be impervious, an artificial one may be made by a trocar, or an instrument resembling that used for dividing strictures of the urethra (Stafford's). The membrane covering the os uteri must be punctured, and a probe passed into the cavity.‡

I performed this operation without difficulty some time ago; the cervix protruded into the vagina, but there was no opening into the uterus. After puncturing it with a scalpel, I passed a trocar into the uterine cavity, and evacuated a large quantity of thick ropy menses, and then introducing a large sized bougie, I maintained it there until the wound healed, and a perfect os uteri was formed.

If the vaginal canal be obliterated, an artificial one may be formed with the knife, if the space between the rectum and vagina permit;

during parturition. See Boyer, Memoires de l'Acad. des Sciences, for the year 1771.

* Stein's case, in Hufeland's Journal, belongs to this class.

† When speaking of the enlargement of the uterus and abdomen from retained menses, M. Lisfranc observes, "Toutefois il est á noter que la region hypogastrique se gonfle comme par saccades et par accès correspondans aux epoques successives des regles, annoncès, du reste, par tous les symptômes qui dèterminent ordinairement le molimen menstruel."—*Mal de l'Uterus*, p. 227.

‡ Macintosh. Pract. of Physic, vol. ii. p. 425.

if not, the parts must be gently torn asunder, as in M. Amussat's case, related in a former page; care being taken to keep the new canal distended by bougies, a sponge-tent, or a roll of linen.

If this cannot be done, the uterus may be punctured from the rectum, and the contents thus evacuated.

In an interesting case of atresia vaginæ, related by Dr. Meigs,* Dr. Randolph made an artificial vagina with the scalpel and bougies, through which the uterus ultimately discharged its contents, after having in the first instance been evacuated by puncturing through the rectum.

Great care and attention will be required, after these operations, to prevent serious consequences. Leeches, cold applications, fomentations, or poultices may be necessary, with the internal exhibition of opiates and laxatives.

When adhesions or false membrane uniting the opposite sides of the vagina, or imperforate hymen,† prohibit the emission of the menses, our first attempt should be to rupture them, by separating the labia and vagina; if we fail in this, the bistoury or trocar must be used, great care being taken to avoid injuring the neighbouring parts.

A quantity of dark-colored fluid generally escapes at the time, and continues running for some days until the womb is emptied, and, at the next period, menses of a natural character are discharged, and the health is gradually restored. It will be necessary to syringe the vagina with warm water, and to apply a broad binder round the abdomen, by way of support. When all danger of local inflammation is past, some tonic medicine (especially the preparations of iron), may be given, and generous diet, with wine, allowed. The bowels must be kept free, and in due time air and exercise should be taken, and any other means adopted which may be calculated to improve the general health.

99. (*b*) *Simple amenorrhœa.*—Before we can pronounce any case to belong to this class, we must ascertain that the development of the uterine system is in proportion to that of the body generally, *i. e.* that the external signs of puberty are present, and that no discharge whatever escapes from the vagina. Of this latter condition we shall speak more fully hereafter; but if the former be absent, it is evident that we have no ground to expect the establishment of the menstrual function, and that the case is rather one of protracted puberty than of amenorrhœa.‡

* Philadelphia Practice of Midwifery, p. 360.

† See Dr. O'Reilly's case in the Dublin Journal, vol. vi. p. 318. Similar ones are to be found in Siebold's Journal, and in many midwifery books, both English and foreign.

‡ Dewees mentions four conditions under which the menses are tardy in appearing. 1. When there is little or no development of the

We must also be on our guard lest the case be one of congenital malformation, such as I have already described.

The subjects of the simple form of amenorrhœa may be either of a plethoric habit of body and robust health, or weak, pale, and delicate in constitution; and the symptoms vary in each.*

In the former, the constitutional suffering is more severe, with considerable febrile action, flushed face, quick full pulse, thirst, &c. In the latter, the sympathies of distant organs are manifested more slowly, and there is little or no fever, the pulse being small and moderately frequent, and there being neither thirst nor heat of skin.

In fact, they appear to have a relation to each other, something like the acute and chronic stages of other diseases.

In both, the attempt at menstruation may be made each month, accompanied by shiverings, pain in the back and loins, weight at the lower part of the abdomen, aching down along the thighs, general lassitude and uneasiness, and sometimes pain in the thyroid gland. These symptoms, after lasting a day, pass away without any menstrual secretion, and are repeated each succeeding month.

But the effects of this abortive effort are not so temporary; severe headaches occur occasionally, sometimes with intolerance of light and sound; the patient complains of throbbing and a sense of fulness in the head, pain is felt in the side, the stomach and bowels become irregular in their functions, the countenance pale, and the strength much reduced. Paroxysms of dyspnœa and hysteria come on, and the patient has the appearance of confirmed ill health.† I have already said, that these symptoms differ somewhat in persons of opposite constitution, though the amount of suffering may be equal; and I repeat, that all these symptoms may present themselves when an obstruction to the escape of the catamenia exists.

genital organs. 2. When it takes place very slowly. 3. When it is interrupted by a chronic affection of another part. 4. When perfect development has taken place, and yet the menses are absent.—*Diseases of Females*, p. 107.

* Siebold divides this kind of amenorrhœa into two classes: those which arise from an excessive exaltation of vitality in persons of irritable and rigid fibre; and those occasioned by the opposite conditions of defective vitality and irritability, in individuals of lax fibre. The treatment varies accordingly: antiphlogistics are recommended in the former, and stimulants in the latter. (Frauenzimmerkrankheiten, &c.)

Mojon, Review Med., March, 1836. Astbury. Ed. Med. and Surg. Journal, vol. xvii. p. 307. Lond. Med. Jour. vol. i. pp. 92, 147; vol. viii. p. 412; vol. ix. p. 230; vol. xi. p. 230.

† See the chapter on 'the constitutional effects of disorders of menstruation.'

Cases, however, are occasionally met with, in which this variety of amenorrhœa has existed for several years without any ill effects;* but some of these persons seem liable to sudden and severe attacks in other organs. Nauche records two such cases, where the patients died suddenly of a disease in the head.

Excessive discharges of another kind also confer a temporary immunity from the immediate consequences of amenorrhœa.

I have repeatedly examined the uterus of patients labouring under amenorrhœa: the cervix has generally appeared small and more pointed than usual during the interval; but in all these cases a small-sized bougie could be introduced into the cavity, without pain or difficulty. During the menstrual period, an enlargement of the cervix takes place, varying in amount in different individuals.

100. *Causes.*—"The causes (says Dr. Locock) of this condition are generally to be found in the previous habits of the patient; for it is most frequently met with in those who have led sedentary and indolent lives, who have indulged in luxurious and gross diet, and been accustomed to hot rooms, soft beds, and too much sleep."†

101. *Pathology.*—Various explanations have been attempted of the proximate cause of this disease, but they have all the appearance of being the consequence of the theoretic views of their respective authors, rather than the result of patient observation. Some have attributed it to a torpor of the secerning vessels, others to a spasm of their extremities, and a third party to excessive 'engorgement.'‡ The question is very difficult, if not impossible to decide, in the present

* At a meeting of the Westminster Medical Society, Jan. 15, 1839, Mr. Harrison enquired if any gentleman knew an instance in which the mother of a large family had never menstruated? He had known such an instance. Dr. Johnson had never seen an instance of the kind. He had, however, under his care at present some members of a family, in which there were five daughters, whose ages ranged between 26 and 13, who though in excellent health had never menstruated.—*Lancet*, Jan. 19, 1839.

See also a case by M. Kruger-Hausen, quoted from Graefe and Walther's Journal, in Ed. Med. and Surg. Journal, Oct. 1840. p. 507.

† Cyclopedia of Pract. Med., art. Amenorrhœa, vol. i.

‡ Undoubtedly there is considerable congestion at the period of this menstrual effort, and in some cases it may be excessive, and so be an impediment to the proper secretive action; but that it is ordinarily so (as stated by Dr. Balbirnie on M. Lisfranc's authority), I cannot believe, for all the evidence I possess would tend to prove the contrary.

See also Traite theorique et pratique sur les alterations organiques simples et cancereuses de la Matrice, &c. par F. Duparcque, M.D. p. 21, et seq.

state of our knowledge; but it appears very probable that in many cases the disease depends upon some condition of the ovaries.

102. *Diagnosis.*—The only point of our decision is, whether the case be one of simple amenorrhœa, not arising from congenital malformation, nor complicated with other diseases. An examination, if there be periodical exacerbations, will detect an obstruction; and if the health be affected, and the monthly return marked with no local impediment, we shall have reason to assume the presence of the principal organs, and may fairly conclude the complaint to be the one at present under consideration.

The most frequent complication is that of uterine leucorrhœa, which will form the next subject of investigation.

103. *Treatment.*—The treatment must be varied according to the constitution of the patient, and according as it may be undertaken during *an interval*, or at a *menstrual period.**

If the patient be of a full habit, with a florid complexion, &c. and we find the symptoms indicating uterine effort present, venæsection will very often afford relief.

Cupping the loins, or the application of leeches to the cervix uteri† or vulva, is a still better method of abstracting blood.

This must be followed, during the *interval*, by a diminution in the quantity and quality of food, with a total abstinence from stimulants. As much exercise as possible should be taken, provided the patient do not over-fatigue herself. A brisk purgation may occasionally be necessary,‡ and moderate doses of aloes, in combination with rhubarb and assafœtida, two or three times a week, have been found very useful.

By these or similar means, the plethora of the system will be relieved, and a better state of health induced. On the approach of the next menstrual epoch, the feet should be put into warm water every evening, or the hip-bath used occasionally. In many cases the menstrual discharge will be established without further trouble.

When, however, the patient is of a weak, nervous, or leuco-phlegmatic constitution, the object will be to strengthen the system by a well-arranged nutritious diet, and a moderate use of wine. Exercise should be taken, but in the least fatiguing mode.

Preparations of iron, such as the carbonate, sulphate, oxysulphate, or Griffith's mixture, and chalybeate mineral waters, are among the most powerful remedies we possess. They should be given in tolerably full doses, and pushed as far as may be deemed advisable. M. Raciborski agrees with MM. Quevenne and Miquelard in preferring the

* Medical Commentaries, vol. ii. p. 51; vol. v. p. 121. Waller on Diseases of Women, p. 30.

† Med. Chir. Review, July, 1839, p. 222. M. Tanchon. Lanc. Francaise, Dec. 1838.

‡ Ed. Med. and Surg. Journal, vol. iv. p. 279.

metallic iron in a very minute state of division. M. Selade considers the proto-muriate or hydro-chlorate, the carbonate, and the lactate of iron, the most useful preparations. He considers that the iron enters into combination with the free muriatic acid of the stomach.* I have found the carbonate answer the purpose better than any other.

If the suffering at the monthly period be great, narcotics, or anti-spasmodics may be given, nor have I found them tend to diminish or suppress the discharge, but rather the contrary. Their constipating effects will, however, require correction.

104. Although this general plan of treatment often succeeds, still there is a large class with whom it does nothing more than improve the general health. With such we must have recourse to *emmenagogues*, or those remedies which are supposed to possess a specific power over the uterine secretion.

By the older writers† a great number of such agents are mentioned, but, according to modern experience, the list is by no means a long one.

Warm hip-baths, leeches to the breasts, cervix uteri, or vulva, have been advised by Nauche, Siebold, Tanchon,‡ &c. Electricity, or galvanism, or electro-magnetism, directed through the uterus and ovaries, by Muyduyt, Austen,§ Nauche, Alberti, &c. Recently, my friend Dr. R. Macdonnell of Montreal has published some cases in which it was very successful.‖ I have seen it used in several instances with benefit.

Frictions to the loins, with stimulating liniments, are sometimes of use, and formerly the crural circulation was arrested by pressure, in order to cause an accumulation of blood in the uterus, and consequent menstruation.

Local irritation of the uterus, by the introduction of bougies, or by injections of stimulating lotions into the uterus, has been recommended. Lavagna and Melier recommend a lotion, composed of a few drops of liq. ammoniæ to an ounce or two of milk, by which they are

* Archives gen. de Med. Belge, Feb. 1845.

† Dr. Richard Carr, in his "Epistolæ Medicinales variis occasionibus conscriptæ," speaks of coffee as an emmenagogue, in the following words:

"Mulieres Arabes semper dum fluent menses hujus decocti ferventis multum paulatim sorbillantes eorum evacuationem adjuvant, et quibus suppressi sunt ad provocandum," p. 27. The book is without date, but was published some time after the year 1691.

I am indebted to my friend Dr. A. Smith for the above extract.

‡ Lancette Francaise, Dec. 1838.

§ Ed. Philos. Essays, vol 3, p. 116. Ashwell on Dis. of Women, p. 74.

‖ British American Med. Journal. Dub. Med. Press, Aug. 12, 1846.

said to have brought on menstruation.* Dr. Hosack succeeded by this means in one case.† Dr. Blundell speaks favorably of its effects as a vaginal injection merely: in the hands of the late Dr. Hunt it failed. I hardly think, with our present experience of their effects, we should be justified in using uterine injections.

Mr. Houlton states, in the Medical Times, that he has had frequent opportunities of watching the medicinal action of the chenopodium olidum, and is perfectly convinced that it is a very safe and important remedy, in many cases in which the catamenial function is not duly performed. He employs the spontaneously evaporated extract, in the form of pills, from four to ten grains, night and morning. In general, if the pills are taken separately for a fortnight previously to the expected return, the beneficial effect of the medicine is manifested; if not, he repeats them a fortnight before the next period.‡

M. Kastner has spoken very highly of the bark of the prunus lauro-cerasus; he gave a pint of the decoction, made with two ounces of the bark, daily.§

Iodine has been extensively tried, and in many cases successfully;‖ but I do not think it has fulfilled the expectations which were formed of it. The best form is that of tincture, in combination with the hydriodate of potash; from 10 to 20 or 30 drops may be given two, three, or four times a day.

That ergot of rye will originate and augment uterine contractions is known to all, and also that it will control inordinate discharges therefrom; but upon what principle it could be supposed to possess the opposite power, viz., that of exciting or increasing the menstrual secretion, I do not know. Yet Drs. Dewees and Locock,¶ MM. Roche,** Nauche,†† and Pauly,‡‡ state that it has been successful in their hands, and recommend its employment. I tried it in consequence of the high authority of these writers, but it failed, as in truth I expected it would.

It may be given in doses of five grains of the powder, three or four times a day. It will be rendered more palatable, and less likely to disturb the stomach, by being boiled in a little milk. Nauche advises its combination with rhubarb or some mild purgative. During its exhibi-

* Lancet, vol. 1, p. 497.

† Dewees. Diseases of Females, p. 126, *note*.

‡ Ranking's Abstract, vol. v. p. 146.

§ Northern Journal of Med. Jan. 1846.

‖ Dict. de Med. et de Chir. Prat. p. 120, art. Iode.

¶ Cyclop. of Pract. Med. vol. i. p. 70. Ashwell, Diseases of Females, p. 79.

** Jour. Dict. de Med. et Chir. art. Ergot.

†† Mal. des Femmes, vol. ii.

‡‡ Lisfranc. Mal. de l'Uterus, p. 183, *note*.

tion, the patient should be carefully watched, and the medicine be suspended, if pain be excited in the uterus.

Strychnine was, I believe, first introduced to the notice of the profession in this country, as a remedy in amenorrhœa, by my friend Dr. Bardsley of Manchester.* Out of twelve cases related in his work, ten were cured, and two relieved; and to this number I can add several cases in which the cure was complete and permanent.

It is fair to add, that Dr. Bardsley's cases were of *suppressed* menstruation; but there is no reason for doubting the equal efficacy of the remedy in simple amenorrhœa.

The dose of the medicine varies from one-tenth or one-fourth of a grain to one grain three times a day.

The *modus operandi* of it is difficult to explain. Dr. Bardsley conceives it to act by stimulating the vessels of the uterus, and improving the tone and vigor of the system.

Madder is said by Home† and Dewees to be exceedingly active, and especially useful, "in cases of great irritability of the system, or where there may be slight febrile paroxysms."‡ Dewees gives it in the form of decoction—a pint of water to an ounce of powdered madder, and a scruple of bruised cloves—a wine-glass full to be taken every three hours.

Dr. Dewees also speaks very highly in favor of cantharides,§ and the volatile tincture of guiacum;|| and his opinion is to a great extent

* Hospital Reports, p. 57.

† Med. Commentaries, vol. vii. p. 217.

‡ Diseases of Females, p. 112.

§ "When the madder fails, I commence in recent cases with tincture of cantharides, after having duly prepared the system for its reception. I rarely increased the quantity more than ten or fifteen drops beyond the original dose, as the moderate doses of thirty-five or forty have always been found sufficient with me, when the medicine would succeed at all. Should the cantharides fail, the volatile tincture of guiacum is then ordered; which, when exhibited in proper cases, has never yet failed in my hands."—*Dewees. Diseases of Females*, p. 122.

|| "The mode of using it is, a teaspoonful every morning, noon, and evening, in a wine-glass full of sweetened milk; or when not forbidden by some peculiarity of circumstance, as much white wine as Sherry, Teneriffe, or Madeira." The dose is to be gradually increased.

Dr. Dewees' formula is as follows:

"Pulv. G. Guiaci opt. ℥iv.
Carb. Sod. vel. Potass. ʒiss.
Pulv. Pimento. ℥i.
Alcohol. dil. ℔i.
digest for a few days."

confirmed by Drs. Jewel and Macleod.*

M. Carron du Villards has used the cyanuret of gold successfully, beginning before the expected menstrual *period.* The mixture he prescribes consists of three grains of the cyanuret to eight ounces of alcoholized water; a tea-spoonful may be given twice a day, gradually increasing the dose.

Other remedies act upon the sympathies of the uterus by stimulating the neighbouring organs, the rectum and bladder; as, for example, aloes, melampodium,† &c. or cantharides,‡ turpentine, savine, and some of the balsams. These have all been found useful, and may be employed by the practitioner according to the circumstances of the case.

Dr. Locock§ speaks highly of a combination of myrrh, aloes, sulphate of iron, and essential oil of savine.

Dr. London derived benefit from applying leeches to the breasts, and Drs. Dewees‖ and Paterson, from the application of blisters. The irritation so excited seems to exert a sympathetic influence over the womb. Sir James Murray¶ (and Aristotle before him) found similar effects follow the application of exhausting glasses to the breasts. Siebold** recommends warm fomentations to these parts.

M. Rostan says he has succeeded by applying leeches to the os tincæ.

M. West de Soult has published some facts in favor of the efficacy of aconite.

Dr. Hannay of Glasgow†† succeeded in developing the catamenia by the exhibition of the ammoniated tincture of guiacum, but failed entirely when he had recourse to Dr. Loudon's plan.

Dr. Shonlein of Wurtzburg speaks of an enema, containing twelve grains of aloes, administered about the time when the menses ought to appear, as the most certain kind of emmenagogue.

This list of remedies, which might easily be tripled in length, would alone prove a fact which experience must have taught every

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"The volatile spirit of ammonia is to be added, pro re natâ, in the proportion of a drachm or two, to every four ounces of tincture; or less or more, agreeably to the state of the system."—*Diseases of Females*, p. 124.

* Lond. Med. Jour. vol. i. p. 93; vol. ii. p. 230.

† Dewees. Diseases of Females, p. 122.

‡ Med. Commentaries, vol. vii. p. 217.

§ Cyclop. of Pract. Med. vol. i. p. 69.

‖ Diseases of Females, p. 126.

¶ Obs. on the Med. and Surg. Agency of the Air Pump, p. 40.

** Frauenzimmerkrankheiten, vol. i.

†† Dublin Journal, Sept. 1836, p. 149. Ibid. March, 1837.

practitioner, that many of these cases are amongst the most obstinate and intractable they meet with. In fact, it is easier to manage almost any of the other curable diseases to which females are obnoxious.

105. (c) *Amenorrhœa, with vicarious uterine leucorrhœa.*—This variety differs most essentially from the preceding. In them the uterine system was quiescent, the uterine function altogether absent; in this, on the contrary, the uterus is often in a state of full and regular action. It is true, that in the ordinary sense the case is one of amenorrhœa, because the *red* menstrual discharge does not appear; but a more accurate investigation will show that the uterus is secreting a a *white* fluid. The womb is not in fault, but probably the '*materiel*' upon which it is operating, as the subjects of this form are generally in delicate health. On this account, the establishment of menstruation is looked for with great anxiety, as a kind of crisis when their future good or bad health will be determined.

Upon inquiry, we shall be told that the *symptoms* usually accompanying menstruation have appeared, and perhaps have recurred several times with great regularity. The patient has had periodical pain in the back and loins; langour, weariness, weight at the lower part of the abdomen, &c., and yet you are given to understand that she has not been "unwell," "regular," or "as she ought to have been." Now, as great mischief may be done by treating these cases as simple amenorrhœa, a more minute investigation must be made, as we shall find that at each of these periodical attacks there was a white discharge from the vagina.

This fact is occasionally mentioned by the older writers, and by some of the more modern,* but its importance seems scarcely to have been duly estimated. In truth, it decides for us the question of congenital malformation, as well as proves that there is no torpor of the womb; and all that remains for us to attempt is the conversion of the white into a red secretion.

This vicarious uterine leucorrhœa, I have already stated, occurs at the commencement of menstruation, chiefly in delicate young females;

* Dr. Freind speaks of "lymph-like menses." Astruc distinctly states that leucorrhœa takes place of the menses; and Nauche says that this is a salutary effort of nature, and to be respected; and he mentions that in 1824 he was called to see a young lady, aged 24, of a strong constitution, who had never menstruated. Instead of the catamenia, there was secreted every month a quantity of white opake mucus, which appeared to answer the purpose of menstruation very well. See Mal. Propres aux Femmes, vol. ii. p. 646.

Dewees also refers to this class as instances of slow development or vicarious secretion. Diseases of Females, p. 109. See also Joerg's Krankheiten des Weibes, p. 136.

it may give place to the red discharge at the second or third period, or it may continue to supply its place for six months or a year. The period of its duration will greatly depend upon the success of our efforts to improve the health.

It may likewise return for one or two periods after proper menstruation has taken place, or it may alternate with it.

The white discharge lasts three or four days in most cases, and the amount is probably nearly equal to the early secretion of the catamenia; but with some patients there is no distinct interval, more or less, of the discharge continuing from one period to another, diminishing after and increasing again before each period.

In these cases it is probable that the leucorrhœa is not merely a vicarious secretion, but that there is, in addition, a disordered state of the lining membrane of the uterus.

When the discharge subsides after three or four days, and the integrity of the interval is preserved, the constitution is scarcely, if at all, affected; the patient may be weakly, and incapable of great exertion, and the organic functions generally may be somewhat *below par*, but still her health is probably not worse than for some time previously. This state of neither good nor bad health may continue for a long time, and it will seldom be found that any decided change for the better takes place until the uterine function is perfected.

When the uterine leucorrhœa, however, is persistent throughout the interval, the local symptoms are more prominent, and the constitutional suffering much greater: there is pain in the back, aching and weakness across the loins, occasional pain in the side or chest, frequent headaches, loss of appetite, irregularity of the bowels; in short, the symptoms more or less complete of uterine leucorrhœa, and requiring the treatment adapted to that disorder.*

106. *Causes.*—The proximate cause of this variety of amenorrhœa will probably be found to exist in the condition of the circulating fluid, and not in the secreting apparatus: the addition of a low degree of inflammation of the lining membrane of the uterus will account for the persistence of the "whites" throughout the *interval*.

Diagnosis.—The presence of the leucorrhœa will elucidate the nature of the amenorrhœa, and its periodicity will point out its uterine origin.

107. *Treatment.*—It is clear, that in this variety our attention must be directed to the improvement of the general health, rather than to the uterine system. For this purpose, the diet of the patient should be so managed as to give the *maximum* of nutrition with the *minimum* of digestive labor.

As the stomach is delicate, we must be cautious not to overload it. Broths and jellies may be given, or solid food, if preferred. It is much

* See the chapter on Uterine Leucorrhœa.

better to give food frequently, and in small quantities, than to allow full meals at distant intervals. Wine in moderate quantity may be permitted.

As much exercise in the open air should be taken as is consistent with avoiding fatigue: and in some cases, horse exercise has appeared the best mode.

Occasional purgatives will be necessary, and those containing aloes answer remarkably well, from the local sympathetic irritation they excite.

Dewees recommends the tinct. cantharidis, which he gives in doses of thirty drops three times a-day.*

Tonics, especially those from the mineral kingdom, are very useful; and of all that I have tried, I have found the different preparations of iron the most beneficial.

Pediluvia should be ordered every night, just before the return of a menstrual period.

The judicious application of the treatment just detailed will seldom fail in improving the general health, and that is certain to be followed by the establishment of normal menstruation.

108. *Amenorrhœa suppressa — suppressio mensium — suppressed menstruation.*

We next come to consider those cases where the flow of the catamenia, having been for a longer or shorter time established, has been arrested.

This may happen at any period of menstrual life, and it may take place suddenly or very gradually, or, in other words, it may be *acute* or *chronic*.

(*a*) *Acute suppression of the menses* may occur from cold caught during menstruation, in consequence of wet feet;† from a bodily or mental shock,‡ received either just previous to, or during the menstrual flow; from mental distress or the depressing passions; from

* Diseases of Females, p. 110.

† It has been stated to me on good authority, that the bathing women at the sea-side do not refrain from following their occupation during menstruation, and that, as a general rule, the menses are not affected by it.

‡ I have known this to occur upon a very extensive scale. Almost all the women who are sent up to the Richmond Penitentiary (near this city), after being at the Recorder's Court, labor under suppression of the menses, in consequence of the mental agitation and distress they have undergone.

Chevalier. Annals of Medicine, vol. iv. p. 102. Hamilton. Essays Phys. and Literary, &c. vol. ii. p. 403.

sexual intercourse during the flow of the catamenia; from fever,§ or any severe disease setting in at that period.

109. *Symptoms.*—The amount of disturbance consequent upon the sudden suppression of the menses varies very much. In some cases, no ill effect follows for some time, but most frequently a degree of fever arises, with head-ache, hot skin, quick pulse, thirst, nausea, &c.; or the patient may be attacked by local inflammation, either of the brain, lungs, intestinal canal, or of the uterus itself.

Occasionally, instead of inflammation, the womb is attacked by neuralgic pains of considerable severity.

But the most puzzling of all these sequelæ is a species of hysteria, stimulating inflammation, but without the usual accordance of symptoms, (some one or other of the more important being absent), and changing from one organ to another as soon as our remedies are brought to bear upon it. I have seen the head, lungs, and stomach successively thus affected, and suddenly, and apparently spontaneously, relieved.

The patient is very liable to attacks of fainting and hysteric paroxysms.

Capuron mentions that attacks of apoplexy and paralysis sometimes result from sudden suppression of the menses.*

Other authors state that aphonia, derangements of vision, amaurosis,† and cutaneous disorders, follow from the same cause.

110. There are two circumstances, however, which may occur, and either of which will considerably mitigate the severity of these secondary attacks: I refer to vicarious menstruation, as it is called, by which the temporary plethora of the system is relieved, but without any evidence of a return to a healthy state on the part of the womb; and to uterine leucorrhœa, which appears to afford relief also, and more naturally, inasmuch as the uterus being in action, even though the product of that action be faulty, gives more hope of the re-establishment of the healthy function than when that organ is perfectly quiescent, and, as it were, paralysed.

It sometimes happens, when the patient's health has suffered much in consequence of the suppression, and when the white discharge has appeared instead of the menses, that the leucorrhœa returns regularly for successive periods, thus increasing the delicacy which was its primary cause, and offering an obstacle to our efforts at improving the general health.

It need scarcely be stated, that a return of the menses, either im-

§ When fever commences during the interval, it does not follow that the next period shall not be attended with the proper secretion.

* Ashwell. Diseases of Females, p. 65.

† Browne. Ed. Med. and Surg. Journ. vol. xxvi.

mediately or at the next monthly period, is the best remedy for the secondary symptoms, although in some cases a delicacy will remain for a time.

Sudden suppression of the menses must be regarded as a much more serious disorder than any other form of amenorrhœa, on account of the secondary attacks, some of which have occasionally terminated fatally.

111. *Diagnosis.*—There can be no difficulty in ascertaining the fact of the suppression from the patient's account, but it may be a matter of some difficulty, as assuredly it is of great importance, to distinguish between the local inflammatory and hysterical attacks which supervene on the primary affection.

This will be best done by estimating carefully the accordance of the symptoms, or their inequality.

The local and general symptoms will be found to correspond, or nearly so, with each other, and with the state of the organic functions, when the disease is inflammatory; but when it is hysterical, although the pain and local distress may equal that arising from inflammation, the pulse will be found little affected, and the functions of the part scarcely, if at all, impaired.

Notwithstanding all our efforts, however, from the irregularity of some inflammatory attacks, there will be cases about which we may be doubtful; and when this uncertainty exists, we shall do wisely to treat them, at least at first, as inflammatory.

112. *Treatment.*—The acute form, according to Capuron, is much more easily cured than the chronic.

The first *indication* is, if possible, to recall the discharge, and for this purpose the patient should take a hip bath, or put the feet into warm water, and swallow some hot drink, as a bowl of whey, thin gruel, &c., and some mild diaphoretic medicine may also be useful. Gentle purgatives will be beneficial.

I have myself succeeded several times with spirits of turpentine. But it must be remembered, that if we produce purging to any extent, we shall defeat our object, as copious discharges of any kind are apt to supersede menstruation; and in these cases, by relieving the constitution, would prevent any effort on the part of the uterus.

Should our attempts to recall the discharge be unavailing, we must wait for the *next period* for this purpose,* and in the mean time afford all the relief in our power to the secondary attacks. If there be local inflammations, or if fever arise, they must be treated according to the

* I believe that my friend Dr. Graves was one of the first writers in these countries to lay stress upon the *periodic* character of the treatment of suppression.—*Dublin Journal*, vol. iii. p. 153. But Gardien had noticed it previously.

"Pour bien determiner l'instant, le plus favorable pour satisfaire

method usually recommended for such diseases, irrespective altogether of their cause.

The state of general plethora, which sometimes results from arrested menstruation, independent of local disease, will be removed by loss of blood.* It may be a question whether small and repeated bleedings are not preferable to the loss of a great quantity at one time. If adopted early, it may prevent the local disorders to which I have referred, as well as relieve the constitution generally.

The hysterical affection of different organs will be combated most successfully by counter-irritation, opiates, antispasmodics, or what are called nervous medicines, such as assafœtida, musk, castor, camphor, &c. and by aloetic purgatives.

Dewees recommends the tincture of the powder of guiacum, as tending to reproduce the catamenia.

Upon the *approach of the next period*, great attention should be paid to the patient, and every means put in practice which may be likely to facilitate the normal secretion. The bowels should be kept free, the surface comfortably warm, and the hip bath or pediluvium used alternate nights.

The strength, if necessary, must be supported by a generous but not stimulating diet.

If at the proper time menstruation be established, our anxiety will be at an end; but if merely a white discharge be thrown off, we must again, during the interval, put into action all means before recommended in cases where uterine leucorrhœa is vicarious of the menses.

If the white discharge persists during the interval, the case must then be treated simply as uterine leucorrhœa. But if no discharge at all, neither red nor white, appear, and if the general condition of the patient, and her freedom from local disease permit, we may have recourse to some of those specific remedies which were mentioned when considering the treatment of simple amenorrhœa.

a l'une et à l'autre de ces indications, il faut avoir egard au retour des epoques menstruelles, &c.

"Les moyens qui tendent à provoquer la menstruation ne doivent être employés qu'aux approches du temps ou elle a coûtume de paraitre."—*Gardien*. 1824, vol. i. p. 359.

* "In prescribing then for the disease, or rather the derangement under consideration, it would almost be hopeless to employ remedies, without the strictest attention to the existing state of the circulating system; the remedies which will relieve in one case may not only be unavailing, but perhaps injurious in another: it therefore behoves every one to become familiar with the various states of the pulse, before he prescribes his remedies, if he expect to succeed by their employment."—*Dewees on Diseases of Females*, p. 120.

Waller on Diseases of Women, p. 35.

113. *(b) Chronic suppression of the menses* may be the issue of an acute attack, or it may arise from the gradual supervention of delicate health from disease of the ovaries, uterus, or other parts; it may also be the termination of the menstrual function, either before or at the usual age.

The quantity of the secretion may diminish, and the time become irregular and uncertain, until at length the uterus altogether ceases to act. This is one way in which the disease comes on: but we find more frequently, I think, that the menses are supplanted by the white discharge. The menses diminish in quantity, and become of a paler color and with shorter intervals, and then a *menstrual period* arrives, during which the patient finds the excreted fluid perfectly colorless—the next period again being marked by the colored discharge.

Thus the patient may go on alternating, with a gradual but steady diminution in the quantity and color, until the leucorrhœa becomes permanently established.

114. *Symptoms.*—As to the symptoms to which this chronic suppression gives rise; when it is merely the subsidence of an acute attack, we shall find pain in the head, side, and back, deficient appetite, and a failure of the vital powers, ending in a confirmed deterioration of health, most favorable to the incursion of some of the fatal organic diseases peculiar to the climate.

When the menses are superseded by leucorrhœa, the symptoms of that disorder will be present.

If the menses neither occur during suckling nor for some time afterwards, and the health appears to suffer, we should bear in mind, that in consequence of inflammation following the delivery, some portion of the canal in the cervix, the os uteri, or the vagina, may be obstructed or obliterated,* *and an examination should always be instituted to ascertain the state of the parts.*

The introduction of the finger will satisfy us as to the vagina; but the permeability of the canal through the cervix, can only be determined by passing a moderate sized bougie through the os uteri.

115. *Diagnosis.*—The most important decision we have to make is between this *chronic suppression* and *pregnancy.* If the patient be in a situation to have children *creditably*, she will undoubtedly mistake the suppression for the first symptoms of pregnancy; and it will sometimes be rather doubtful, even after a careful examination. The arrest of menstruation, occasioned by conception, is generally unaccompanied by other unpleasant symptoms, and is shortly followed by the morning

* Edin. Med. Essays, vol. iii. p. 291. Dr. Ashwell's Case. Ryan's Journal, April 22, 1837. American Jour. of Med. Sciences, Feb. 1837.

sickness, and an alteration in the volume of the breasts, and in the color and sebaceous glands of the areolas.*

These, with other circumstances peculiar to the case itself, are the principal grounds upon which our diagnosis must be founded.

116. *Treatment.*—Whenever the suppression is consequent upon disease of the genital system or of other parts, our attention must be directed to such disease, and we shall generally find that on the patient's recovery, the catamenia will return.

Where the menses have been superseded by 'whites,' the proper treatment of the uterine leucorrhœa will almost always be followed by the restoration of the uterine function.

When the suppression is uncomplicated, it may be advisable to try the remedies recommended for simple amenorrhœa.

But additional caution will be necessary, with a careful estimate of the general condition of the patient, and an internal examination, previously, to ascertain that there be organic disease of the womb, and also the probability of the case being one of premature but normal cessation of the menses.

117. 3. *Irregular menstruation.*—In this class of patients, which is very large, the catamenia are not suppressed, but they occur irregularly, both as to *time*, *quality*, and *quantity*.

The *intervals* may be shortened or lengthened, the amount greater or less than usual, and the discharge varying in its characteristics, but alternating with periods of perfect regularity.

118. *Symptoms.*—The symptoms in these cases differ in degree only from those in the other varieties of amenorrhœa.

Occasional head-aches, dyspepsia, pale complexion, constipation, pain in the back, sides, &c., with intervals of better health, answering to the periods of the correct performance of the uterine functions.

119. *Treatment.*—A modification of the treatment recommended for amenorrhœa will generally be appropriate, and in most cases successful. *The preparations of iron are the most useful; but if there be any objection to their exhibition, other tonics may be given.*

Should these fail, we may then cautiously employ some of the emmenagogues, and undoubtedly the best of them is active exercise in the open air.

I have now described the principal varieties of Amenorrhœa, with the causes and symptoms most usually observed ; I have hitherto deferred mentioning some occasional causes which I have found to produce the same effects, as well as some unusual symptoms, because

* I feel great pleasure in referring my readers to the minute and accurate work of my friend Doctor Montgomery, "On the Signs of Pregnancy," as affording them more information on this subject than any other with which I am acquainted.

they have occurred to me too seldom to justify any general inferences, and also in order that there might be less difficulty in clearly remembering the ordinary cases. I have several times seen hemorrhage during childbirth followed by amenorrhœa (the patient *not* giving suck) for many months. A similar consequence has resulted from puerperal fever, especially in that form in which the substance of the uterus is chiefly affected.

In two cases of fibrous tumor of the fundus uteri under my care, though apparently unconnected with the lining membrane, amenorrhœa gradually supervened, though with less distressing symptoms than usual.

Among the less frequent symptoms may be enumerated, effusion into the peritoneal cavity, and still more rarely into the pleura. The absorption of the fluid takes place rapidly when the menses re-appear.

The action of the heart is also affected by suppression of the menses, especially if sudden. I am indebted to my friend Dr. Green, for an opportunity of examining a case (and I have since seen many others) where a distinct 'bruit de soufflet' existed, without other evidence of heart disease, and which disappeared spontaneously upon the re-appearance of the catamenia.

CHAPTER II.

VICARIOUS MENSTRUATION.

120. It has already been stated, that any great drain upon the constitution, such, for instance, as a large bleeding or catharsis taking place about the monthly period, may supplant the menstrual discharge, and that without apparent injury. Now, this principle of one evacuation supplying the place of another, and a healthy one, *pro tempore*, we see occasionally exemplified in a natural manner. In many cases, especially of *suppressed* menstruation, where the monthly effort or menstrual *molimen* occurs, without the uterine secretion, and where the system generally is suffering from the consequent plethora or irregular distribution of blood, an attempt is made by the natural powers to afford relief by a discharge of blood from some other part, generally one which is already enfeebled.

This is called *vicarious menstruation*. It is recorded to have taken place from the nostrils, eyes, ears, gums, lungs, stomach, arms, bladder, nipples, the end of the fingers and toes, from different joints,

from the axilla, from the stump of an amputated limb, from ulcers, from varicose tumors, and from the surface of the skin generally.*

The more extensive mucous membranes (pulmonary and intestinal) are, however, the ordinary seats of the discharge. Siebold mentions that he knew an instance of excessive salivation supplying the place of the menses, and I saw a similar case at the Wellesley Dispensary some years ago.

Dr. Blundell mentions that a case occurred in St. Thomas's Hospital (under his own notice), "in which there was every three weeks, for at least three times in succession, a discharge from a sore on the hand, in the place of a discharge from the uterus, observing the same period to which the patient had been accustomed. In this case, it is worthy of remark that there was, some two or three hours before the commencement of the eruption, a throb in the course of the radial and ulnar arteries."

Dr. Law has kindly furnished me with the particulars of a case of this kind, of great interest, which came under his care in Sir P. Dun's Hospital. The patient, Mary Murphy, æt. 21, had been in bad health, and subject to distressing head-aches previous to her admission into hospital. During her stay she missed a menstrual period, and was shortly afterwards attacked by hemorrhage from both ears, which was repeated at intervals of from three to five nights, each attack lasting some hours. Very often from 15 to 20 ounces of blood were collected which did not coagulate, neither did blood taken from the arm. By suitable treatment the system was strengthened, and the intervals between the bleedings increased; and the discharge, though thus modified, still persisted, and she left the hospital. After her departure, she was attacked with vomiting of blood, to a certain extent superseding the evacuation from the ears, which only occurred once or twice a-month. She returned to hospital in consequence of this new symptom, and continued in the same state for some time, with some effort at menstruation; but at last the sanguineous discharge was supplanted by severe diarrhœa, which having relieved the other complaints, was itself cured by opium. The quantity of blood lost must have been enormous, and it is not a little remarkable, that none of the sequelæ of severe hemorrhage occurred.

"In one case, the discharge occurred from the mammæ; in the other, from the ear. This last patient was a native of London, twelve years

* Capuron. Mal. des Femmes, p. 120. Astruc. vol. i. p. 158. Haller's Physiology. Siebold's Frauenzimmerkrankheiten, vol. i. p. 338. Astbury. Ed. Med. and Surg. Journ. vol. xvii. p. 307. Ed. Med. Essays, vol. iii. p. 341, (from ulcer of ancle.) Hamilton. Med. Commentaries, vol. xi. p. 337. Mem. of Med. Society, vol. iii. p. 502. Davis's Obstetric Medicine, vol i. p. 242. Locock. Cyclop. of Pract. Med. vol. i. p. 71. Med. Gazette, July 29, 1837, (from the mammæ.)

of age. She began to menstruate when eleven years and eight months old, and was regular for three months, when the catamenia ceased. Occasional hemoptysis, and discharge of blood from both ears, vicariously occurred."*

In a patient under my care, hœmoptysis has occurred the first or second menstrual period after the commencement of pregnancy, in two or three successive pregnancies.

In general, the vicarious discharge consists of blood solely; it comes on suddenly, and continues at intervals for some days, unless the quantity be very great, in which case the first hemorrhage may be the only one. The local and constitutional distress under which the patient previously labored will be found to disappear in most cases, but the health will not be established during the interval.

This irregular evacuation may take place at one period only, succeeded the next month by the catamenia; or it may occupy several successive monthly returns, preceded for a day or two each time by the usual symptoms of menstruation. Although an organ thus affected may exhibit the appearance of formidable disease (as in hæmatemesis or hæmoptysis), yet in general it is not attended with much functional disturbance, nor followed by more serious consequences than those resulting from the loss of blood.

An attack resembling vicarious menstruation sometimes occurs about the period of the 'cessation of the menses,' and seems to act beneficially as a derivative, preventing serious local congestions.

121. *Causes.*—The immediate cause is, of course, the sudden suppression of an accustomed discharge, and the consequent distress; but why such an extraordinary effort of nature should be made to avoid the evil consequences of the shock to the system, it is impossible to explain. The locality of the vicarious discharge is often determined by the previous delicacy of an organ or tissue.

122. *Diagnosis.*—At the first outbreak, this curious phenomenon may occasion both alarm and difficulty, occurring (as I have said it does) in females of weak constitution, and in delicate organs.

Our judgment of the nature of the attack must be formed upon the simultaneous concurrence of the amenorrhœa, the menstrual effort, and the vicarious evacuation. The diagnosis will be rendered quite certain by the absence of those signs and symptoms, and that constitutional disturbance which would characterise the local affection, were it primary and not vicarious.

123. *Prognosis.*—I have not met with any cases on record of a fatal termination to such an attack, nor am I aware that the organ or tissue so affected is more than usually liable to disease subsequently. I have seen several cases where the organic functions continued with little or no impediment after the cessation of the discharge.

* Ashwell's Cases, Guy's Hospital Reports, No. v. p. 156.

In most of the cases related by authors, the uterus has sooner or later taken on its proper action, and superseded the vicarious drain.

It would seem, therefore, that but little fear need be entertained as to the effect of the secondary attack,* or as to the ultimate resumption of its proper function by the uterus.

At the same time, great care and watchfulness will be absolutely requisite in each case, when the discharge proceeds from the more important and more delicate organs.

124. *Treatment.*—If the attack have commenced without previous warning, little or nothing can be done except to watch the patient. If the discharge be from the lungs, opium may be given, either alone, or in combination with the mineral acids or the acetate of lead, and counter-irritation, for the purpose of moderating the evacuation. If from the stomach, opium with the subnitrate of bismuth may be given, as it has been found useful.

If, from its previous occurrence or from any other circumstance, there are grounds for expecting an attack of this kind, means should be used at once to relieve the system in a less questionable manner, and to stimulate the uterus into activity at the same time, if possible. Cupping over the sacrum, or leeches to the vulva or anus, will sometimes answer *both* objects perfectly, and for this reason are preferable to bleeding from the arm.

Stimulating enemata may also be useful, or an injection of aloes, as recommended by Prof. Schönlein.

During the interval, the patient may be treated much in the way recommended in simple amenorrhœa. Tonics, vegetable or mineral, and particularly the preparations of iron, should be given. If we are not successful by these means, and there are no counter-indications derived from the constitution of the patient, or the character and locality of the secondary affection, some of those remedies which act more directly upon the uterine system may be given.

CHAPTER III.

DYSMENORRHŒA. PAINFUL OR DIFFICULT MENSTRUATION.†

125. Amenorrhœa was described as consisting in the absence of the menstrual secretion. Now in Dysmenorrhœa there is most frequently

* Davis's Obstetric Medicine, vol. i. p. 245.

† Dewees. Diseases of Females, p. 132. Blundell. Diseases of Females, p. 261. Cyclop. of Pract. Med. art. Dysmenorrhœa. Capuron. Mal. des Femmes, p. 70. Dict. de Med. et Chir. Pract. art.

defective secretive power, but in addition there is severe pain accompanying the *secretion* or *emission* of the discharge.

So that it would appear that the pain, not the quantity of the catamenia, is the distinctive mark of this disease. The menses may be scanty, profuse, or in the ordinary quantity.

Dysmenorrhœa may occur at any menstrual period, and it is very rarely found to be confined merely to one or two periods. In some cases it may be traced back to the very commencement of menstruation, and it occasionally continues throughout the whole of menstrual life. The amount of the pain varies very much; it may be moderate, and lasting but a few hours each time; or it may be so severe as to cause fainting, and, by the repeated shock to the constitution, render the patient a permanent invalid.

The character of the pain and the accompanying symptoms vary according to the constitution of the individual. On this ground, the disorder may be divided into two species—the *neuralgic*, and the *congestive* or *inflammatory*. A third may be added, where the difficulty is *mechanical*, and arises from some impediment in the passage. Examples of this kind are exceedingly rare.

126. I. *Neuralgic dysmenorrhœa.* This variety may attack females at any age, but I have found it more frequent after thirty than before; and in unmarried women, or in married women who have had no children, than in others. It is very much confined to those of a nervous temperament, and of a thin delicate habit of body.

The monthly paroxysms present all the characters of neuralgia.* For a day or so previously there is a sense of general uneasiness, a deep-seated feeling of cold, or, as a patient described it to me, the bones of the extremities feel icy cold. Headache may precede the flow of the menses, or succeed it; and I have sometimes seen the headache alternate regularly with the pain in the back. The latter pain commences in the region of the sacrum, and extends round to the lower part of the abdomen, and down the thighs. In some cases it is constant, without any remission; in others it occurs in paroxysms, with intervals of ease. The amount of suffering varies much; it is often very intense, and, I think, more severe than in the other species.

The period which elapses between the commencement of the pain and the flow of the catamenia is very uncertain; it may be a few hours, or may be a day or two. A sensation of forcing or bearing down is not unfrequently present, adding considerably to the distress of the patient.

Dysmenorrhée. Boivin and Dugès. Diseases of the Uterus, p. 610. Ashwell. Diseases of Females, p. 101. Siebold. Frauenzimmerkrankheiten, vol. ii. p. 327. Waller. Diseases of Women, p. 63.

* Ed. Med. and Surg. Journal, vol. iii. p. 330.

After the lapse of a longer or shorter time, the menses appear, sometimes slowly and scantily, in other cases in slight gushes; or they may cease after a day or two, and reappear. The quantity differs a good deal, not only with different persons, but in the same persons at different times. The discharge may be scanty, profuse, or unchanged, perhaps a little paler than it ought to be, or mixed with clots or shreds.

127. Dr. Tyler Smith observes, that "in dysmenorrhœa, or painful menstruation, the greater portion of the pain consists, I am convinced, of neuralgia; the deep lumbar pain is decidedly ovarian, and not uterine. Many women suffer so much lumbar pain at each menstrual period, that it resembles, and, indeed, almost amounts to a monthly attack of ovaritis. Almost all women suffer so much pain and disturbance from menstruating, that we may almost venture to say that menstruation, like parturition, lies in debateable ground between physiology and pathology." "Part of the pain of dysmenorrhœa, then, is ovarian, and that which is uterine is often symptomatic of general disorder." "Uterine disturbance must be considered as a secondary condition—an aggravated symptom of ovarian excitement in painful menstruation." "The bearing down I believe to be a tenesmus of the os and cervix uteri; it is most frequent and severe in women who have borne children, and in whom the os and cervix have been developed."*

128 In some cases of dysmenorrhœa we find a peculiar membrane secreted, which was first described by Morgagni,† and since by Denman,‡ Burns,§ and all writers upon diseases of females. It is composed of plastic lymph, resembling that we find in croup, thrown off by the lining membrane of the uterus, and when sufficiently extensive, taking the mould of the uterine cavity. It may either be discharged entire as a bag, or in shreds, or of the consistence of jelly.‖ When it is entire, and presents the form of the uterine cavity, it has given rise to suspicions of pregnancy; but if it be opened, nothing but a little fluid will be found in it, neither fœtus, nor cord, nor flocculent chorion. Its expulsion is accompanied by violent forcing bearing down pains, like those of labor. By some patients it is discharged every month, by others only occasionally. Professor Simpson has lately put forth a conjecture, founded upon analogy, that this membrane is really the mucous membrane of the uterus thrown off, but I confess that to me the evidence he adduces is far from satisfactory.

Denman supposed the membrane to be secreted every month in cases

* On Parturition and Obstetrics, p. 88.

† Epistola 48, art. 11.

‡ Midwifery, p. 106.

§ Midwifery, p. 63.

‖ Signs of Pregnancy, by Dr. Montgomery, p. 145.

of dysmenorrhœa, but that in many cases it passed away unnoticed. He also states that he never knew a woman conceive in whom this membrane was secreted, so that he considered it a mark of sterility. Dr. Dewees agrees with Denman; but Dr. Blundell says that conception is by no means impossible, though it rarely occurs,* and this opinion is probably correct.

Dr. Oldham, in a valuable paper upon dysmenorrhœa, draws the following conclusions, among others, respecting this membrane, although the cases of which he speaks were evidently those of congestive dysmenorrhœa, in which the membrane also occurs.

1. There is a form of menstruation rendered extremely painful, from the production and casting off of a membrane from the cavity of the womb

2. That this membrane is not the product of inflammation, or a thick mass of epithelium, but is formed from the uterine glands, just as the decidua is, and is expelled in the same way.

3. That the morbid action does not begin at the uterus, but in the ovary, and the sequence of effects is, first, ovarian congestion, calling forth a sympathetic growth of the uterine glands, forming a false decidua, and uterine engorgement.

4. That this uterine engorgement is oftentimes relieved by a proper menstrual flux; but if not, the posterior wall of the womb gradually increases in size, and becomes hard, the balance of the organ is lost, and it becomes retroverted,† &c.

129. The cervix uteri undergoes the usual change. At the menstrual period, it becomes swollen and less dense, with an increase of heat. The os uteri is more open than during an interval.

The eruption of the menses is not immediately followed by the relief of the pain, as in the inflammatory dysmenorrhœa, but it subsides gradually, alternating sometimes with neuralgic pains in other parts, as in the face, teeth, &c.

During the attack, the pulse is scarcely accelerated, but somewhat reduced in strength. There is no feverishness, and subsequently the patient seems less weakened than might have been expected.

Each attack may last from twenty-four hours to four or five days, after which the patient (unless afflicted with headache) speedily recovers so as to resume her usual routine of employment. Very slight disturbance of other organic functions is observed; the bowels are regular, and the appetite very little affected.

I have described the phenomena of this form of the disorder, as we ordinarily see them; but I should be guilty of a great omission, if I did not state that I have seen cases where the patient's health, during the interval, was much more seriously affected. Such were very liable

* Diseases of Women, p. 259.

† Med. Gazette, Nov. 27, and Dec. 4, 1846.

to returns of the severe headache or pain in the back, so intense, and so much aggravated by standing or walking, that they were obliged to lie on a sofa, or to remain in bed almost constantly; and, as the natural consequence of suffering and confinement, the functions of the stomach and bowels became impaired, and the general health seriously deteriorated.

130. *Pathology.*—From an attentive examination of these cases, I have been led to the conclusion, that the disease is most frequently of a simple neuralgic character. We have no evidence of any inflammatory process going on; the pulse is rather weaker, and scarcely, if at all, quicker; the skin is cool, and the remaining functions undisturbed. In short, there is no proportion (as there is in inflammation generally) between the amount of local distress and constitutional suffering. The womb appears to be in a state of great irritability.

The above explanation, however, is not sufficient for those cases where the membrane is expelled. Probably Dr. Locock is right in supposing it the result of a degree of inflammation of the mucous membrane, of a peculiar character. That it is met with in cases where the neuralgic character predominates, I know; but whether more frequently than in inflammatory dysmenorrhœa, I am not able to decide.

131. *Causes.*—Cold, especially when taken during menstruation, or soon after miscarriage or delivery, will often induce a severe attack. Sudden shocks, mental emotions, &c. acting upon an irritable condition of the womb, have been known to give rise to it, and especially when the impression was produced at or about the menstrual period.

132. *Diagnosis.*—The only mistake at all likely to be made, is confounding a dysmenorrhœal attack with *abortion*, on account of the paroxysms of pain and bearing down; which error becomes more probable, when the membrane I have already described is discharged entire.

However, if the case be one of disordered menstruation, we shall find the patient has been 'regular' every month; perhaps that she has had a precisely similar attack the preceding two or three months. This will, of course, be decisive.

In addition, we may observe, that the discharge accompanying abortion is decidedly sanguineous, and not menstruous, and that in quantity it ordinarily exceeds the catamenia very much.

I have said that the menstrual sac contains nothing but fluid, and of course, when opened, no fœtus is discovered. Little stress, however, can be laid upon this, since it is well known that a fœtus of an early age is often dissolved in the liquor amnii. The external surfaces of the ovum and the sac differ more than the internal: on the ovum we find more or less of the flocculi of the chorion, to which the outer

surface of the menstrual membrane, however rough it may be, bears no resemblance.

133. *Treatment.*—The indications are two-fold: 1, to relieve the pain during the attack; and, 2, by appropriate remedies to prevent a return.

Our principal reliance for the former is upon sedatives. Opium may be given in grain doses every second hour, commencing with the first sensation of pain in the back, and continued until relief is obtained. If opium should disturb the stomach, it may be given in the form of enema: if the head be affected by it, we may try the acetate or muriate of morphia, black drop, hyosciamus, conium, &c. Camphor seems to be of use,* either alone, or, what is better, combined with the opium.

I have latterly found great benefit from the tincture of the resin of Indian hemp in cases of neuralgic dysmenorrhœa, with profuse flow; it not only checks the latter, but decidedly relieves the pain. The dose is five or six drops three times a day in water.

Massuyer of Strasburgh, Cloquet, and Patin† have each prescribed the acetate of ammonia, in moderate doses, with benefit.

Drs. Dewees‡ and Gooch gave the ergot of rye successfully. I tried it, but though at first it appeared to relieve the pain, it afterwards entirely failed. The dose is five grains three times a day.

134. *During the intervals* every effort should be made to strengthen the patient, and to lessen the general and local irritability. For this purpose the diet should be generous, with a fair proportion of wine, and exercise in the open air should be taken once or twice daily.

Chalybeate waters, or some of the medicinal preparations of iron, may be given. Dr. Locock speaks well of a mixture of equal parts of vin. ferri and spirit. æther. sulph. co., of which ℥ss to ℥i may be taken two or three times a day. Should the iron disagree, zinc, in proper doses, may be substituted. Dr. Dewees has tried the tinct. cantharid. with success, but the medicine upon which he appears to rely most confidently is the tinct. guaici ammon. in doses of ℥ss three times a day. The pain is sometimes increased the first period after its exhibition, he says, but ultimately it affords complete relief. Dr. Locock has pointed out the especial usefulness of this medicine in patients of a rheumatic diathesis.

Dr. Bushnan recommends veratria.§ Dr. Stahl of Indiana has used borax successfully. Dr. Chapman of Philadelphia recommends senega root very highly.

* Dewees. Diseases of Females, p. 136.

† Mem. de la Societè d'Agriculture, &c. du department de l'Aube, No. 36.

‡ Diseases of Females, p. 137.

§ Brit. and For. Med. Review, Oct. 1841, p. 594.

A blister to the sacrum, or a caustic issue, is often of great use, and I have seen very much benefit derived from the daily use of vaginal injections of tepid or cold water during the interval.

Prof. Mojon of Genoa has injected carbonic acid gas into the vagina in these cases, it is said, with great relief of the pain, and a more regular menstruation subsequently.

On the approach of the next period, warm water must be thrown into the vagina, and the patient should take a hip bath or pediluvium every night for two or three nights antecedent to the eruption.

This variety is often extremely obstinate, resisting all our plans of treatment for years; in other cases we may be more successful. The disease is rarely even the indirect cause of any fatal attack, and at the farthest, the patient may look for a cessation of the suffering at the period of the cessation of the uterine function.

135. *Inflammatory Dysmenorrhœa.*—This species differs very widely from the last described, in the subjects of it, and in its symptoms. It occurs in females of a full habit and of a sanguine temperament, and generally at an earlier age. Unmarried women are very liable to it, and married women who have had children. Its first approach is generally sudden, and the result of cold or some violent constitutional disturbance. A slight degree frequently attends upon each return of the menses, in young girls of a florid complexion and plethoric habit, even from the first menstrual period; but which disappears after marriage.

Very few precursory symptoms announce the attack; a degree of restlessness and feverishness, rigors, and flushing, and generally headache, precede the severer symptoms. For some time before and after the catamenia appear, the suffering is very great: the patient complains of pain across the back, aching of the limbs, weariness, intolerance of light and sound, the face is flushed, the skin hot, the pulse full, bounding, and quick, often upwards of 100. Cases not unfrequently occur in which the fever runs so high that delirium supervenes for a short time.

On the other hand, we constantly see cases of this variety, as ascertained by an examination, in which the general symptoms are far less severe, although the pain in the back and front, the weight and forcing down, are equally well marked.

Most commonly the symptoms are mitigated when menstruation is fully established, and then by degrees all the general disturbance subsides. The interval between the first sensation of pain and the appearance of the catamenia varies a good deal; it is, I think, rather less than in the former variety. The amount of discharge varies; I have known it to be very scanty, but it is more generally profuse.

The dysmenorrhœal membrane may also be secreted, either entire or in shreds, with the symptoms described by Dr. Oldham.

I have often found uterine leucorrhœa persistent during the intervals in this species, and but rarely in the former.

The severe symptoms may recur at each menstrual period, although they are not so regular in their intensity as with the neuralgic form, and occasionally a period or two will pass with comparatively little suffering.

136. An *internal* examination will afford evidence of considerable engorgement or congestion of the uterus; the cervix is swollen and tender, and the heat is increased. If we employ the speculum, we shall find the color of the parts heightened, and occasionally an erosion or superficial ulceration on the cervix, which, perhaps, as Dr. Edwards* and Mr. Whitehead think, may have caused the dysmenorrhœa. The latter author has given an excellent summary of the changes observed in this disease. "The whole" he says, "or a considerable portion of the uterus, is found to be large and weighty, descending in the vagina to a point below its natural position. The cervix is tumid, occasionally excoriated, or presenting a granulating surface; and although sometimes hard and resistent, is more commonly less firm than natural, erysipelatous, varicose, œdematous, or spongy. Its body, upon tactile examination, is hypertrophied, and not unfrequently painful under moderate pressure with the finger. The enlargement is sometimes equally pronounced on all sides, but is as frequently partial, implicating, in the majority of instances probably, the posterior wall;† in which case the organ is thrown backwards into the hollow of the sacrum, constituting the position of retroflexion or retroversion; and, resting heavily upon the rectum, materially interferes with the process of defecation. Occasionally, however, the anterior wall is the seat of engorgement, the uterus assuming the position of anteflexion or anteversion, and exciting an undue degree of pressure upon the bladder: the capacity of this viscus is consequently diminished in proportion to the extent of this encroachment; and influenced, moreover, by a lively sympathy with the part affected, through the intimate relation which exists in the nervous apparatus of the one and the other, the necessity for its evacuation becomes distressingly great. The walls of the vagina are commonly relaxed, the labia externa swollen, and sometimes marked with venous distension, which state is sure to prevail also about the upper part of the thighs. The hæmorrhoidal vessels are in like manner implicated, accompanied with effusion of blood, which escapes per anum, generally regarded as the result of piles existing within the lower bowel. The orificium uteri is sufficiently capacious, admitting freely the uterine sound, the presence of which within the organ is generally unattended with any manifestation of that highly irritable condition under which the dysmenorrhœal membrane is produced."‡

* Provincial Med. and Surg. Journal, Sept. 1847.
† Cause and Treatment of Abortion and Sterility.
‡ Med. Gazette, April 13, 1849.

I am inclined to think, that the vesical irritation is much more frequently due to reflex action from the congested uterus upon the bladder, than to mechanical pressure; and I must differ also from Mr. Whitehead, as to the distress caused by the uterine sound in these cases.

Dr. Dewees has noticed a remarkable symptom accompanying this variety, viz: pain and tumefaction of the breasts,* which I have repeatedly noticed: adding thus another example of the intimate sympathy between the uterus and mammary glands.

As to the effect of dysmenorrhœa upon another ovario-uterine function, that of conception, I may observe that a severe attack of either species seems to preclude it entirely; but I have known several instances of patients laboring under a slight degree of either variety, who had children within a year after marriage; and in them the discharge was increased in quantity, and the suffering diminished after marriage.

137. *Pathology.*—From a careful comparison of the general and local symptoms, with the information obtained by an internal examination, there can be no doubt that the uterus is in a state of congestion approaching to inflammation. The heat, tenderness, and swelling of the cervix, sometimes of the entire uterus, the rigors and flushing, the headache and quick pulse, indicate a considerable degree of inflammatory action; but the rapid subsidence of these symptoms, when the menses flow freely, would seem to shew that the line which separates energetic sensitive action and congestion from actual inflammation has not been passed; with the exception, at least, of those cases where ulceration occurs.

It is very probable, I think, that the extreme congestion renders the secretion of the menses more tardy.

138. *Treatment.*—If the pathological view I have given be correct, there can be little hesitation about the treatment, and the result seems to confirm that view. If we are called to a patient during an attack, before menstruation has taken place, with all the feverish symptoms I have enumerated present, twelve or fourteen ounces of blood should be immediately taken from the arm, or as much by cupping from the loins.

Scarification of the cervix uteri, or leeches applied to this part, will often be very useful, and in some cases supersede the more general blood-letting.†

M. Trousseau recommends a few leeches to the interior surface of the knee.‡

Mr. Whitehead has invented an instrument for the purpose of

* Midwifery, p. 152.
† Fenner. Med. Gazette, Nov. 29, 1839.
‡ Brit. and Foreign Review, Jan. 1842, p. 236.

drawing blood from the uterus: it is a species of cupping apparatus, adapted to the locality, and he proposes to use it two or three days before the catamenial period.*

Warm hip baths or pediluvia will not merely soothe the patient, but will relieve the congestion by promoting the flow of the menses.

The bowels should be freed by mercurial or saline purgatives, and febrifuge medicines with cooling drinks may be given. These prompt measures will almost always relieve the patient; the danger is lest they should supersede menstruation, and our care must be, so to proportion the amount of depletion and the evacuations, as to obtain relief from the distress without interfering with the function itself.

After the operation of the cathartic, if there be any pain, an opiate may be given, or the tincture of indian hemp, if the discharge be profuse.

Tartar emetic would appear likely to be useful, but it has not succeeded in my hands.

During the *interval*, great benefit may be obtained by judicious management. The patient should take plenty of exercise, and be much out in the open air: walking is preferable to riding or driving. Warm hip baths may be taken occasionally, and purgatives should be regularly administered.

If much congestion or enlargement of the cervix remain, I would recommend the application of the strong tincture of iodine once a week to the cervix. I have found nothing so beneficial; by it I have relieved the congestion, diminished the violence of the succeeding period, cured the slight erosion or ulceration, and stopped the secretion of the dysmenorrhœal membrane. The formula for the tincture is as follows:—

℞. Iodinii ℥i.
Iodid. Potassi ℥ij.
Spt. Rectificat. Oij.
Solve.

At the approach of the next period, if much congestion or excitement shew itself, it will be well to abstract blood from the uterus itself, or from its neighbourhood, as already advised.

By these means we shall rarely fail in relieving, even if we do not cure the disorder.

139. III. *Mechanical dysmenorrhœa.*—I have entitled thus, a class of cases in which the difficulty appears to be in the emission of the menses, in consequence of a stricture or narrowing of one part of the canal of the cervix.† What may be the cause of this narrowing,

* Med. Gazette, April 13, 1839.

† Lisfranc. Mal. de l'Uterus, p. 225. Lond. Med. Journal, vol. i. p. 384. Fingerhuth. Siebold's Journal, vol. xv. p. 3.

whether congenital or the result of inflammation, we are not able, in many cases, to determine; but as to the fact that stricture occasionally occurs, there can be no doubt.

We have the authority of Capuron for enumerating it amongst the causes of dysmenorrhœa, and Dr. Mackintosh of Edinburgh states that he has frequently detected it.

In a case which I saw some time since, through the kindness of Dr. O'Reilly of this city, we distinctly ascertained the presence of a stricture about half way up the canal of the cervix. This stricture we succeeded in dilating.

Dr. Simpson, Drs. Protheroe Smith, Mr. Whitehead, Dr. Oldham, and others, all regard this state as a cause of dysmenorrhœa.

That it is so in some cases cannot, I think, be denied, but I cannot agree with those who regard the occurrence as very frequent, or as being in all cases, when present, the sole cause of the dysmenorrhœa. I have seen the dysmenorrhœa relieved without curing the stricture; and I have seen the stricture cured without any relief of the dysmenorrhœa.

There is no evidence given by Dr. Mackintosh that in his cases there was any accumulation of the menses, which we might have expected if the stricture had been the sole cause of the disorder.

The success of his practice,* whilst it adds an important agent to our stock of remedies, and whilst it shews how useful internal examinations may prove in menstrual disorders, does not prove that the disease was simple stricture; for we must bear in mind that whilst he was using a remedy against stricture, that remedy itself was a powerful and direct stimulus to the uterus, and very well calculated to increase the activity of the uterine function.

From the evidence we possess, it is clearly our duty, in all doubtful cases of this kind, to institute an internal examination, for the purpose of ascertaining the presence of this narrowing or stricture.

140. *Treatment.*—If stricture be discovered, even though it form but a part of the complaint, there can be no objection to the cautious introduction of elastic bougies. It is easily effected, either when the patient is upright or in bed. We should commence with one of a small size, gradually increasing until we can pass one the size of a male catheter. The patient should be carefully watched after each introduction, lest symptoms of inflammation set in; and it will be well to use vaginal injections of warm water once or twice a-day. The frequency with which the bougie should be passed must depend a good deal upon the

* He was the first to recommend dilatation by bougies, which he tried in 27 cases, and cured 24; of these 24, 11 have since borne children.—*Pract. of Physic.* vol. ii.

Dewees. Diseases of Females, p. 145.

irritability of the patient; every second or third day will be often enough. The instrument, when introduced, may be allowed to remain a few minutes.

It is hardly necessary to caution against mistaking a fold of the radiated mucous membrane for a permanent obstacle; nor against using any degree of force in passing the bougie; nor against forcibly pressing it against the fundus uteri.

Not content with the gradual dilatation of the stricture, however, Professor Simpson,* and others, have advised its section by an instrument resembling a "lithotome caché," and the subsequent dilatation by prepared sponges, or a metallic dilator. Drs. Simpson and P. Smith state that success has followed such practice. Dr. Oldham relates a successful case, and one that only partially succeeded.† I confess myself to be satisfied with the slower and safer remedy. I do not believe that the uterus is so tolerant of interference, and of the presence of foreign bodies, as some have stated, and I could bring many cases to shew the evil result of this "meddlesome" practice, if it was necessary. I am happy to find that Dr. Oldham has recently taken the same view, in his paper on sterility,‡ in which he relates two fatal cases resulting from the mischievous attempt at mechanical interference.

CHAPTER V.

MENORRHAGIA—EXCESSIVE MENSTRUATION.§

141. This term is used by many writers to signify merely an increase in the catamenia, without any mixture of other fluid; others include in it, as well, any discharge of blood which may accompany or succeed the menstrual evacuation. This latter definition has been adopted by

* Monthly Journal, May, 1847.

† Med. Gazette, Nov. 27, 1846.

‡ Guy's Hospital Reports, Oct. 1849.

§ Manning. Diseases of Women, p. 101. Leake. Diseases of Women, p. 57. Astruc. Diseases of Females, vol. i. p. 204. Dewees. Diseases of Females, pp. 132, 159. Blundell. Diseases of Women, p. 219. Cyclop. of Pract. Medicine, Art. Menorrhagia. Med. Commentaries, vol. v. p. 122, vol. xii. p. 380. Capuron. Mal. des Femmes, p. 96. Dict. de Méd. et de Chir. Prat. Art. Menorrhagie. Walker on Diseases of Women, p. 42.

Dr. Locock, and it is probably the best, as avoiding undue multiplication of names, and allowing the expression 'uterine hemorrhage' to be applied exclusively to floodings connected with pregnancy and parturition.

Excessive menstruation may occur in various ways; the menses may return too frequently or too copiously, or at unusual periods (as during gestation and suckling.) When very profuse, with protracted intervals, it has been mistaken for abortion.

But in estimating the excess, we must take into consideration both the climate and the constitution. That which we consider scanty menstruation here would probably be set down as menorrhagia in other countries; and in the same way, the quantity secreted by some individuals in perfect health is excessive, compared with the discharge in other persons of equal health.

I have had occasion to notice three very distinct forms of the disease, which include, I think, most of the cases we ordinarily meet in practice.

In the *first*, the discharge is of the natural quality, but the quantity or frequency of recurrence is greatly increased.

In the *second*, the discharge is large, and occasionally mixed with clots of blood. An examination, *per vaginam*, reveals no change in the condition of the neck or body of the womb.

In the *third*, there is a considerable loss of blood, with a marked change in the size and position of the uterus.

142. As to the *first form*, it occasionally sets in with a sudden and violent gush from the vagina, after which it stops for some hours, and then recurs; and this alternation may occur during the usual period of menstruation. Sometimes, on the other hand, the discharge goes on regularly, but lasts for ten days or a fortnight, or even three weeks; or, the quantity each time not being extraordinary, it may return every two or three weeks; and this variety I have seen in young unmarried females, as well as in those whose uterine system has been in a state of greater activity; but it is more commonly met with in the latter.

It is also, more frequently than the others, connected with that state of the lining membrane which gives rise to uterine leucorrhœa during the interval between the menstrual periods. In some cases which I have had under my care, the leucorrhœa preceded, and was evidently the cause of the menorrhagia; and when it succeeds the latter, it always appears to augment the severity of the symptoms. In those cases (of rather rare occurrence) where the menorrhagia has become almost constant, leaving perhaps hardly a week's interval, it will generally be found on enquiry, that at an earlier period the patient was much subjected to "whites."

143. *Symptoms.*—The general symptoms are exactly those we should anticipate from the continuance of a debilitating discharge. Exhaustion, langour, and dislike of exertion, weakness across the loins and

hips, paleness of the countenance, head-ache, throbbing of the temples, tinnitus aurium and giddiness occur more or less in the slighter cases.

If the disease be not relieved, and especially if uterine leucorrhœa be present, all these symptoms become aggravated. The exhaustion and langour increase, the face becomes sallow, an aching pain is felt across the loins, extending round the lower part of the abdomen; pain in the left side, repeated and severe head-aches, derangement of the stomach and bowels; in short, all the secondary symptoms, and the derangement of the health which follow in the train of anemia,* no matter in what way this may be produced. In some extreme but rare cases, we have diarrhœa and anasarca, with nervous symptoms, melancholy, and even epilepsy, resulting from this disorder.

Nothing is discovered by a vaginal examination: there is neither unnatural swelling nor increase of heat; the os uteri is slightly open, but there is no tenderness.

144. *Causes.* Among the more general causes of this disease, repeated child-bearing and over-suckling are perhaps the most frequent. The latter is often carried to a great extent among the poor, to prevent the too rapid increase of the family, which it does very effectually when it gives rise to this disorder, but at the expense of much suffering and loss of health to the mother.

In some cases it is attributable to *hæmorrhage* after parturition, and in one patient of mine in whom this occurred, the catamenia have ever since returned regularly every three weeks. Excessive coition sometimes causes, and always aggravates, this affection. Cold, over-exertion, mental emotion, &c. will also occasionally produce it.

In the severer cases, conception does not take place; but I have witnessed the contrary in the milder ones. It may or may not return after delivery.

The *duration* of the attack is very variable; the slighter cases often subside spontaneously, and the more severe are generally amenable to suitable treatment, though they are sometimes tedious.

The *consequences* of this complaint are a great liability to abortion if the patient become pregnant, and also, from the relaxation produced, a disposition to prolapse of the uterus and vagina.

145. *Diagnosis.*—The *first form* of menorrhagia differs from the other two, in the absence of clots in the discharge; and an internal examination will enable us to distinguish it from organic disease of the uterus.

146. *Treatment.*—The first *indication* is to remove the cause, if

* See Dr. M. Hall's work on bloodletting and its evils; as also his paper on the same subject in the Cyclop. of Pract. Medicine: both indicate the great talent and minute observation of the author.

possible. If it proceed from over-suckling, the child should be immediately weaned, and the patient should live for some time *absque marito*.

It may be necessary, in persons of a full habit of body, and where the attack is recent, to take blood from the arm, cup the loins, or apply leeches to the anus. Where the discharge is very copious, a dose of opium, or the acetate of lead in combination with opium will often diminish the quantity.

When these remedies have not succeeded, I have found great benefit from ergot of rye, given in five-grain doses three times a-day. It has seldom or never failed in checking the discharge, without producing any unpleasant symptoms

The tincture of the resin of Indian hemp has lately been introduced to our notice by my friend Dr. Maguire, of Castleknock, for this disease. I and others in this city have tried it with great success. It seems best suited for the first and second varieties of menorrhagia, and very few doses are generally sufficient. I have also used it in threatened abortion, with great benefit. I have once or twice seen unpleasant nervous symptoms follow its use, but they were not serious, and were dissipated in a few hours by ammonia, rest, &c. The dose is from four to ten drops three times a day, in water.

Dr. Osborne has found great benefit from the use of ipecacuanha.*

Dr. Locock recommends cold to the vulva, hips, and abdomen, with cold vaginal injections; and Dewees used a vaginal injection of sugar of lead with laudanum, followed by rest on a hard bed, a dose of gtt. xx of elixir of vitriol, and gentle laxatives, twice with success.

I cannot but think, however, that throwing any cold fluid into contact with the uterus during menstruation is a very hazardous practice, and very apt to convert the periodical and temporary congestion into serious inflammation. Still more strongly should I deprecate injections into the cavity of the womb itself, as recently advised in France, and the trial of which was attended with most fatal consequences. A much safer application of cold I have found to be by enemata of cold water.

Plugging the vagina has also been recommended; as a '*dernier resort*' it may be tried, although it is neither a very scientific application in those cases (the discharge being a secretion and not hemorrhage,) nor very safe, on account of the irritation it is likely to cause. If used, the plug should be removed in ten or twelve hours, and, if necessary, a fresh one may be introduced.

Dr. Macintosh speaks well of an enema containing a scruple of the sugar of lead

* Trans. of the Coll. of Phys. in Ireland, vol. iii. p. 18.

Dr. Kolle has recommended the application of leeches to the breasts.*

So much for the remedies applicable during an attack; much may also be done during the intervals, by local and general remedies, and a prudent regulation of the diet. A blister may be applied to the sacrum with great advantage, and either be kept open or renewed. Vaginal injections, at first of tepid and afterwards of cold water, will be found very useful. Benefit is also derived from sponging the loins and lower parts of the body with cold salt water; it relieves the distressing weakness of the loins and the general lassitude, and seconds most powerfully the more direct remedies.

Tonics, especially the mineral ones, should be given; a very useful pill is composed of sulphate of iron, (gr. ½ *pro dos*) with aloes and myrrh; or with blue pill and compound rhubarb pill. Griffith's mixture, or some analogous compound, will also answer our purpose. By some writers the carbonate of iron has been preferred; by others, the muriated tincture. The bowels should be kept regular. The diet may be generous, but ought not to be too stimulating; wine in moderate quantity may be allowed. The extremities and the surface generally should be kept comfortably warm, but too great accumulation of clothing about the hips and loins is apt to increase the complaint.

147. The *second form* differs from the first, in the more or less copious discharge of clots of blood, along with the proper secretion.†

It rarely occurs in young or unmarried females, and I have not commonly seen it in persons under the age of thirty. The subjects of it are generally women of the leucophlegmatic temperament, whose constitution has been impaired by disease, or frequent child-bearing.

148. *Causes.*—The causes of this variety of menorrhagia are nearly the same as those of the former, and therefore I need not dwell upon them; but the *pathology* is evidently different. There can be no doubt but that congestion, to a much greater extent than is usual at the menstrual periods, takes place, and it is to the effects of this over-distension of the vessels we must look for an explanation of the presence of clots in the discharge. I have not been able, however, to

* Lancet, Dec. 30, 1837.

† "There are evidently two conditions of this affection; one, where the whole system participates; and plethora may exist, or even a distinctly formed fever may be excited just before the hemorrhage takes place. In this case, the face, the eyes, the spirits, all partake of the general state of excitement; nor does this condition subside until the uterine irritation ceases. The other seems to consist of a more local determination to the uterus; producing an engorgement of this organ, but which does not implicate the general system, except from the waste of strength it occasions, when the discharge is profuse or long continued."—*Dewees on Diseases of Females*, p. 165.

discover any alteration in the volume or position of the uterus by an *internal* examination.

149. *Symptoms.*—The disorder appears gradual in its progress; one or two small clots appearing at first, and almost unnoticed by the patient; then perhaps an intermission, and a return in increased quantity. After it has gone on thus for some time, the loss of blood may become considerable, so as even to cause fainting. It is impossible to say, in these cases, whether the catamenia are altered in quantity or quality.

A *vaginal* examination throws no light upon the nature of the disease. The os uteri is found rather more open than usual, but its borders are not thickened, nor are the cervix and body enlarged; no increase of heat is observed.

The constitutional effects are similar to those which arise from the preceding variety, but more severe, and more rapidly produced. The pulse is very feeble, and occasionally quickened; the strength greatly exhausted; the back aching, and so weak, that sitting upright or walking is very distressing; the countenance is colorless, and the patient is liable either to serous effusions or to local congestions, from the unequal and uncertain balance of the circulation. This species is almost always accompanied with uterine leucorrhœa.

150. *Treatment.*—The remedies which were recommended in the first variety are equally available in the second. Opium alone, or in combination with lead, and the ergot exhibited during the attack; with counter-irritation to the sacrum; the douche to the loins; cold sponging, and vaginal injections of cold water or astringent solutions.*

* Astringent injections are recommended by Dr. Blundell, for the purpose of restraining the discharge. He says, "Again, in the worst cases of passive menorrhagia (i. e. M. of the 2nd species), there is another remedy (first recommended to me by Dr. Haighton), and which I have found of great value, and that is the injection of astringents, not into the vagina only, but into the uterus itself; and this has been known to succeed in cases apparently desperate, where the bleedings have been going on till the patient has been reduced to the most extreme degree of weakness. But in order to give this remedy a fair trial, you ought to inject the solution yourself; you cannot trust it to nurses; and a syringe or elastic bottle with a long neck should be used for the purpose. Simple cold water may first be tried, and if this fail, half a drachm of alum may be dissolved in half a pint of water, and used for the purpose; weaker solutions must be employed at first; for you must not use for the inner membrane of the womb solutions of the same strength you would employ for the inner membrane of the vagina, unless by advancing gradually from the weaker solutions to the stronger, as the parts may bear. Twice in the day

during the interval, constitute our main resources. In the choice of the proper remedy, and the strength at which it is to be employed, the medical attendant must be guided partly by his own prior experience of their relative value, and partly by the peculiarities of each individual case.

M. Pasquil has advised venæsection,* but there are not many cases in which it would be likely to succeed.

Astringent medicines, such as large doses of sulphuric acid in infusion of roses, decoction of logwood, &c. have been found useful, and deserve a trial. Dr. Ashwell refers to Dr. Cholmely's case, cured by drastic purgatives.†

Ergot of rye has been successful in the hands of MM. Schneider,‡ Lisfranc,§ Pignacca, Pigrani,‖ and Bellingeri.¶ My own experience confirms their opinion as to its value.

I have already mentioned the indian hemp, which, with the ergot of rye, I regard as the most valuable remedies we possess in this disease.

In some cases, I have seen gallic acid, Ruspini's styptic, and other astringents, of use.

Sir James Eyre speaks very highly of the oxide of silver, in doses of half a grain three times a day, increased to two grains. He considers it superior to ergot, gallic acid, &c.**

Mr. Ginestet recommends the juice of the lesser nettle—*urtica urens.*

the injection may be used: one small gush, of about two tea-spoonfuls, may be thrown up, then a second, then a third, then a fourth, in succession, and so on till you have thoroughly wet the uterus, care being taken that you do not inject too forcibly, as this may tend to irritate the vessels and increase the disease. Under the use of alum, you will find, perhaps, that in the course of two or three days a quantity of clotted blood will come away, with pains, something like the pains of parturition, and which may alarm the patient; this is nothing but the blood coagulated by the alum, and may be regarded as rather favorable than otherwise, as it shows that the injection has been truly thrown into the womb, and that the uterus is contracting.—*Diseases of Women*, p. 253.

* Encyclographie, Oct. 1837.

† Diseases of Females, p. 136.

‡ Lancet, July, 1837. Hufeland's Journal, March, 1837. Encyclographie, Sept. 1837.

§ Mal. de l'Uterus, p. 381. *Note.*

‖ Annali univ. di Med. di Milano. Duparcque, p. 106.

¶ American Journal of Med. Sciences, March, 1830. Lancet, July 8, 1837.

** Practical Remarks on some Exhausting Diseases.

The dose is from 15 to 20 drachms. One dose is generally sufficient.*

I have also found benefit from the exhibition of small doses of turpentine two or three times a-day, but especially from large enemata of cold water used morning and evening. Vegetable or mineral tonics are highly beneficial in the exhausted state to which the patient is reduced. Absolute quiet is necessary during an attack, and if exercise be taken during an interval, it should be in the least fatiguing mode possible. The diet ought to be moderate in quantity, but nutritious, and wine may be allowed. The stomach and bowels will require suitable medicines occasionally.

All possible causes, and every thing likely to aggravate the complaint, must be excluded with the utmost rigor.

151. The *third form*† differs considerably from the other two. The discharge is more profuse, and its symptoms more severe; it is accompanied by marked alterations in the condition and relation of the uterus, occurs at a later period of life, and is more difficult to cure.

The disease is not confined to any one kind of constitution or temperament; it occurs in the plethoric and in the debilitated, in the melancholic as well as in the sanguine. I have never seen it in a patient under forty years of age, nor after the cessation of the catamenia.

152. *Symptoms.*—The attack is preceded for some time by irregularity of the menses, both as to time, quantity, and the duration of each period, with occasional uterine leucorrhœa during the intervals. It is not until the menses have flowed naturally for about 24 hours, that the sanguineous discharge appears. Large clots are then expelled, in addition to a great increase in the fluid discharge. At first the attack lasts seven or ten days only, but in cases of longer standing I have occasionally known it to continue throughout the interval, and terminate after the next period, either gradually or suddenly.

The quantity lost varies, of course; it is sometimes very large; it was sufficient in one case to excite fears of a fatal result.

The recumbent posture appears to have no effect upon the discharge,

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* Ranking's Abstract, vol. i. p. 135.

† The description of this variety is taken solely from my notes of the cases I have seen; I am not aware of any author who had noticed it. Since my paper was published in the Edinburgh Med. and Surg. Journal, many other cases have presented themselves to me, answering perfectly to the description there given, and amenable to the treatment there recommended.

Lately the disease has been ably treated of by my friend Dr. Ashwell and others.—*Diseases of Women*, p. 140.

there being as much observed during the night as the day. Any exertion or long standing never fails to increase the amount.

During the attack, the patient complains of excessive exhaustion, of a sense of weight in the pelvis, of a dull pain there occasionally, and of weakness of the loins. In all the cases I have seen, there was considerable dysuria, especially after long standing; several, indeed, were obliged to lie down before they were able to evacuate the contents of the bladder completely.

The general health, of course, suffers considerably; the appetite diminishes, the tongue is clean, though pale, the bowels become constipated, the surface blanched, and the strength much reduced.

The pulse is occasionally quickened, but more generally quiet, and enfeebled in proportion to the loss of blood.

An *internal* examination will detect the os uteri somewhat lower in the pelvis, and directed more towards the sacrum than usual. It is rather more patulous than in a perfectly healthy subject, even at the time of menstruation; and the cervix is more or less swollen, especially anteriorly, where it expands into the body.* It appears to be tilted forward by its increased weight, so as to press upon the bladder; thus affording a satisfactory explanation of a symptom (the dysuria) which I have noticed in every well-marked case of the disease. No increase of heat is observed in the vaginal canal or about the cervix. The cervix and body of the uterus are generally, but *not* always, slightly tender on pressure. When the finger is withdrawn, it is found covered with a sanguinolent discharge, somewhat thinner than blood, and devoid of smell.

The amount of these changes will vary in different cases; in some, the cervix appears the part chiefly affected; whilst in others, the body of the womb, as far as the finger can reach, feels greatly swollen. The discharge seems to be always in exact proportion to the degree of uterine congestion.

The *duration* of the disorder is variable: it may subside spontaneously, or, in consequence of the remedies employed, in two or three months after the first attack; or it may continue for two or three years. In the latter case, however, I have always found that the patient has enjoyed short intervals of perfect freedom from the attacks.

A relapse after an apparent cure is exceedingly common, so that it is quite necessary to watch the patient closely during one or two succeeding monthly periods: I might say, indeed, that the test of the success of our treatment consists in the return of the catamenia without

* There appears, in this particular, some analogy between this form and the "engorgement de l'uterus, par congestion avec hemorrhage," described by M. Duparcque, at p. 113 of his work on Diseases of the Uterus.

hemorrhage or pain, the relief obtained during an interval being often merely temporary.

153. *Pathology*.—If we consider the time at which these attacks occur, a period at which there is always an accumulation of blood in the womb for the performance of its functions; if we notice also the slow progress and subacute character of the symptoms, with the peculiar terminations of this disorder, and collate these with the information obtained by an internal examination, we shall be led to the conclusion that the disease is rather passive than active; that it consists, in fact, in an unusual and excessive congestion of the uterine vessels, and that the discharge is the result, not of secretion, but of the rupture of some of the vascular twigs which ramify on the lining membrane of the uterus.

I have never been able to detect any special *cause*, unless we consider as such the peculiar age at which it occurs.

There is one point of view in which this form of menorrhagia possesses great interest, viz. its possible relation to some organic disease.

When we recollect that the age at which alone it has been observed is also about the period when many of the organic diseases of the uterus commence, we may fairly ask whether this inordinate congestion may not be the forerunner of more serious maladies? There can be little doubt, I suppose, that such congestions must leave the uterus in the most favorable state possible for the development of graver disease; and if this be the case, this form of menorrhagia must be regarded as even of more importance than the symptoms would lead us to suppose.

154. *Diagnosis*.—The diagnosis of this disorder is not difficult. Our suspicions will first be excited by the admixture of blood with the menstrual discharge, its persistence after the normal period for that excretion has expired, and the peculiarity in the evacuation of urine. All doubt will be removed by a vaginal examination.

The complaint may be distinguished—

1. *From inflammation of the uterus*, by the heat of the part not being increased, by the *slight* degree of pain and tenderness, by the spontaneous and repeated subsidence and recurrence of the attack, and by the absence of all constitutional excitement; the tongue and pulse being nearly, if not quite, in a natural state.

2. *From enlargement of the organ by morbid deposition*, by the hemorrhage without ulceration, and by the subsidence of the tumefaction when the attack ceases.

3. The hemorrhage attendant on *corroding ulcer* or *cancer of the uterus* differs from this species of menorrhagia in the irregularity of its occurrence: it may be at the menstrual period, or during the interval; and when it does occur before the cessation of the menses, it appears entirely unconnected with that function; in addition, there is

much more pain generally in these diseases than in menorrhagia, and the breach of surface they occasion, which will be detected by a vaginal examination, will decide the question at once.

4. A vaginal examination will also prevent our confounding it with the hemorrhages arising from the *cauliflower excrescence*, or *polypus* of the neck of the uterus; but there may be some difficulty in a case of polypus of the fundus, which has not been expelled through the os uteri. The hemorrhage, and the bulk arising from the presence of the polypus together, render the resemblance of one disorder to the other very remarkable. The data for our guidance are principally the information acquired by a careful internal examination, the concurrence of the hemorrhage with the menstrual periods, the reduction in the size of the uterus during the intervals of the attacks, and the effects of remedies.

155. *Prognosis.*—Of all the cases I have seen, none have proved fatal, either directly or indirectly. All have been ultimately relieved, although some have been tedious and obstinate, and a few required a considerable time for the restoration of the general health. One of the first signs of improvement is the cessation of the uterine leucorrhœa during the intervals: this is shortly followed, in cases of recovery, by subsidence of the uterine swelling, and by a diminution of the tenderness.

156. *Treatment.*—Although the complaint appear simple, it is neither easy nor possible in all cases to restrain the hemorrhage by means applied during the attack. I have found opium alone, and in combination with large doses of the acetate of lead, ineffectual. Cold to the vulva, and *enemata* of cold water, were equally powerless. Plugging the vagina arrested the discharge for a time, but the irritation it excited seemed to aggravate the other symptoms. Leeches to the vulva had no effect upon it, and the preparations of iron did little or no good. The only remedy, in short, which seems to have the power of controlling the discharge, during the menstrual period, is the ergot of rye. It may be given in doses of five or ten grains twice or thrice a-day. I have never seen it produce any ill effects in this disease, although I have certainly known it fail altogether.

During an attack, the patient should be kept in a state of perfect rest: she should lie on a hard mattrass, covered rather lightly with bed clothes, but with warmth applied to the feet. All her drinks should be cool and devoid of stimulants, unless she become faint, and then a little wine may be allowed.

At this period, ergot of rye or any astringent medicine may be given. I have found enemata or vaginal injections of cold water very useful, though I have not ventured as yet to inject the uterus as recommended.

So long as the discharge continues, the employment of the remedies for the *cure* of the disease must be suspended; but when once it has entirely ceased, not a moment should be lost. A blister should be

applied to the sacrum, and either kept open or repeated. I have always found good result from this; the pain in the back generally becoming less severe, and the whites diminishing in quantity.

But by far the most powerful means we possess are vaginal injections of cold water, solution of acetate of lead, or other astringents, two or three times a day. The patient should lie on her back in bed, and the fluid should be thrown up gradually. An almost immediate improvement is the result, followed by the subsidence of all the prominent symptoms, even in those cases which relapse subsequently. The swelling of the uterus will be found, upon examination, to have disappeared; there is probably scarcely any whites; no pain in the back, or weight in the pelvis, and the patient is able to walk about without inconvenience.*

When the improvement is so marked as this, there is but little fear (with due caution) that the patient will relapse at the next monthly period; but where the relief, though decided, is not complete—where the disease still lingers—then, in all probability, the next menstruation will be accompanied with the old symptoms, to be met again, and perhaps more successfully, by the same remedies.

It is important to remember, that no matter what may be the degree of improvement, one or perhaps two menstrual periods should be passed with caution and rest, before the patient resume her usual habits.

In some very few cases, I have seen benefit derived from cupping the loins previous to the application of a blister, but in general it is not necessary. Tonics, mineral or vegetable, are often useful; and here, as in most of the disorders of menstruation, the preparations of iron seem peculiarly beneficial. The bowels must be kept free, as the patient is apt to suffer from constipation; at the same time, purging should be avoided. Good nutritious diet may be allowed, and if the patient be much weakened, wine may be given. Great caution must be observed in admitting the patient to take exercise until after a menstrual period shall have passed safely over; then, indeed, moderate exercise in the open air will be very serviceable. All possible causes must be avoided, and for some time the patient (if married) should live apart from her husband.

* The late Dr. Hamilton of Edinburgh, in a letter to me, dated Edinburgh, May 10, 1838, says, "I should recommend for the treatment of the third variety of menorrhagia, a fair trial, during the interval between the periods, of the conium maculatum, both internally and externally, viz. four grs. of the powdered leaves, combined with a few grains of the columbo root, taken three times a day, and a poultice, composed of ℥vi of linseed meal, with the same quantity of the powdered leaves of the conium mac., to be applied on the region of the pubis, and to be renewed every twelve hours."

"In addition to the foregoing and ordinary derangements of menstruation, Dr. Blundell speaks of the discharge of "offensive catamenia." He says, "before I speak of the cessation of the menses, I may observe here, that there are some young persons made very unhappy, because, when the catamenia form, they are offensive. Dr. Whiting related to me a case of this kind, stating at the same time what he conceived to be the cause. It seems that the disease is produced, at least sometimes, by a partial closure of the orifice of the vagina, in consequence of which the catamenia have not a free escape during the menstruating period, and that being partially retained in the vagina, putrescence and offence ensue. If the patient is taught to use a syringe and warm water in a proper manner, during the menstruating period, this little infirmity may be easily relieved for the time, and marriage and child-bearing will accomplish the rest."*

CHAPTER V.

CESSATION OF MENSTRUATION.†

157. The period of this great change is about the age of 45 or 50 (see page 74); it is referred to by females as the "time of life," and is dreaded by them from a belief in its excessive mortality. This opinion probably originated with medical practitioners: it is, at all events, advanced by the older writers.

The mistake (for such it is) has probably arisen from comparing the mortality of females at this period with that at any earlier period; comparing, in fact, old and nearly worn-out women with the young and strong. We should expect the deaths among the former to preponderate,‡ but this is no reason for attributing any peculiarly fatal

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* Diseases of Women, p. 264.

† Astruc. Diseases of Females, p. 322. Leake. Diseases of Women, p. 87. London Med. Journal, vol. i. pp. 150, 171. Med. Obs. and Enquiries, vol. v. p. 160. Blundell. Diseases of Women, p. 264. Capuron. Mal. des Femmes, p. 126. Waller. Diseases of Females, p. 7.

‡ Even this would appear somewhat doubtful, for Mr. Constant Sancerotte has attempted to prove by statistics, on a grand scale, that the mortality among women is greater between the ages of 30 and 40, than between 40 and 60.

influence to the subsidence of the uterine function. We ought, in truth, to compare the mortality in the opposite sex, at the same age, and we shall then arrive at a different conclusion.

M. Benoiston de Chateauneuf has recently shown, by extracts from burial registries, that the mortality between the ages of 30 and 70 is not more considerable amongst women than men. Similar results have attended the researches of Dr. Belleroid.*

But if the comparative mortality be less than was supposed, there can be no question as to the importance of this period; for, in many cases, we find uterine and ovarian disorders dating from thence, and we know that it is about this time generally that the more malignant diseases commence. How far they may be owing to neglect at this period, it is very difficult to say; we must suppose, however, that the anatomical state in which the uterine system is left on the arrest of its functions, must exert a certain amount of influence in their production.

158. *Symptoms.*—These will vary very much according to the constitution of the female; if she be strong and healthy, she may find the discharge gradually declining in quantity, and changing to a lighter color, until it cease altogether, with no periodical irregularity or bodily distress; or, the red discharge may alternate with uterine leucorrhœa towards the termination. In other cases, there is no uterine leucorrhœa, the catemenia omitting one or two periods, and then returning, and so on until they cease altogether.

But if the patient be delicate, matters may not go on so quietly; there may be repeated attacks of uterine hemorrhage, endangering life, or that variety of menorrhagia, which I have described as the third form, may occur. Sometimes, but rarely, vicarious menstruation has taken place.

So much for the mode in which the menses subside; but this does not comprise the whole of the danger, which can only be understood by considering the diseases to which so great a functional, and ultimately organic change, exposes all the generative organs, and those in more immediate relation with them.

In healthy women, indeed, there is often immunity from any secondary attack dependant on this cause; the patient gets much fatter, the abdomen and breasts enlarge, and she not unfrequently persuades herself that she is pregnant. Occasionally there seems to be a disposition to irregular distribution of blood, local congestion, &c. but more

Muret, in his statistics of the *Pays du Vaud*, did not find between 40 and 50 a more critical age for women than between 10 and 20.

M. Lachaise, in his Medical Topography of Paris, has given similar evidence. Lisfranc, Mal. de l'Uterus, p. 202, *note*.

* Bull. Med. Belge, Sept. and Nov. 1839. Davis's Obstetric Med. vol. i. p. 289.

frequently the health is improved. This is especially the case with those patients who have suffered much from dysmenorrhœa or irritable uterus.

Delicate females, and especially those subject to menstrual derangements previously, are exposed to local diseases of the sexual system, and especially to that series of changes which issues in confirmed disorganization.

This is the more to be apprehended if she have already been the subject of uterine disease, or if at the time any such disease be latent, and on our part it will require attentive examination and considerable practical skill.

But if the generative system escape the more serious affections, the patient, it is said, is much more liable to seizures of a temporary nature in other parts. Amongst these are enumerated hæmorrhages from different surfaces, attacks of inflammation in any delicate organs, vertigo, hysteric paroxysms, colics, hemorrhoids, rheumatism, cutaneous eruptions, ulcers of the legs, dyspepsia, diseases of the breasts, profuse sweats, leucorrhœa, apoplexy, palsy, insanity, &c. In some very rare instances, sudden death has occurred at this period. It is not unnatural, reasoning *à priori*, to expect a predisposition to disease upon the cessation of menstruation, which may be considered as the somewhat sudden stoppage of a constitutional drain, which in other instances is observed to have similar results. The imminence of the danger in such attacks may perhaps depend upon the abruptness of the menstrual obstruction.

Dr. Tyler Smith and Dr. Corfe have noticed the cerebral affection which occurs at this period. Dr. Smith considers it as allied to sphagiasmus: "the so called heats and chills of this period consist of a real paroxysmal affection, allied in its nature both to intermittent fever and epilepsy, particularly to the cerebral variety of the latter; sometimes it terminates in epilepsy or mania, or even apoplexy. In fact, this malady is a fruitful source of mania occurring in the female after the decline of the catamenia. The disorder I refer to appears to consist of compression of the veins of the neck, and distension of the cerebral circulation, attended by vivid sensations of heat, flushing of the face and neck, with giddiness almost amounting to insensibility. These symptoms are soon followed by relaxation of the neck, great coldness and chills, and faintness, with perspiration over the whole surface of the body. The paroxysms are sometimes so violent as to wake patients out of their sleep, and the apprehension of the attack produces the greatest uneasiness in excitable patients. These paroxysms occur many times in the twenty-four hours in women of delicate health at this epoch."*

Dr. Corfe states that the attack is more frequent in the morning

* On Parturition and Obstetrics, p. 394.

before rising, or in the after part of the day, and that it is aggravated by a sense of hunger. The individuals most liable are those who inherit a gouty diathesis, who live freely on animal food, and who make great mental exertions. A spontaneous separation of the crystals of pure lithic acid will sometimes remove the disease.*

159. *Treatment.*—Healthy females need very little treatment. A careful avoidance of cold, and of all causes which tend to excite local disease, some attention to diet and regimen, and an occasional purgative are all that is required. Delicate females will require much greater watchfulness, and a prompt attention to the first symptoms which indicate disordered action of the uterus, or of any other organ. Counter-irritation seems to be the most useful remedy we possess; and when this susceptibility to secondary attacks manifests itself, an artificial drain, by means of a perpetual blister, issue, seton, &c. should be immediately established.

In addition to a careful regulation of the diet, Dr. Corfe recommends the following draught to be taken every morning, if not too powerful:—

℞.	Ammon. hydro-chlorat.	gr. x.
	Extr. Taraxaci	ʒss.
	Dec. aloes comp.	
	Mist. Gentian. Co.	āā ℥v.
	Sodæ potas. tartrat.	ʒi.
	Tinc. Lavend. Co.	gtt. xx.

F. Haust.

and also to clothe the loins with the emplastrum opii, or a strip of new flannel. Warm baths, and friction with flannel or a hair glove, will be useful.

The attacks of menorrhagia must be treated as already recommended, and the local affections upon ordinary principles. Leeches, or counter-irritation, will be necessary in those of an inflammatory character, and stimulants, antispasmodics, or sedatives, for the hysterical or nervous.

CHAPTER VI.

CONSTITUTIONAL EFFECTS OF THE DISORDERS OF MENSTRUATION.

160. Most of these effects having been noticed in the chapter upon menstrual disorders, it may seem almost superfluous to devote a

* Med. Times, Ap. 4, 1849

chapter to them especially; but the subjects are so numerous, and the symptoms so apparently unconnected with the causes, that a somewhat further developement of their history may perhaps be permitted.

Two classes, differing chiefly in degree, will, I think, include the principal varieties we meet in practice, as well as those described by authors. To the *first* or *milder form*, we may refer all the cases where the menstrual deviation is trifling or temporary, where it amounts to irregularity (in quantity, or quality, or time) merely, and where the consequences, primary or secondary, rarely extend beyond functional disturbance, and do not threaten life. This *class* has been admirably described by Dr. Addison,* Dr. Marshall Hall,† and others.

In the second form, we include the severer or more protracted cases, where the uterine function is deteriorated or abrogated, without any effort for its re-establishment, and when, in addition to the symptoms described in the first variety, we have the pallor, exhaustion, and secondary diseases consequent upon a state of anemia. This has received the name of *chlorosis*, owing to the color of the skin, and will require a distinct investigation.

In this chapter I shall enter briefly into the consideration of the *first form* of disorder I have noticed, or the derangement of the general health, resulting from a minor degree, or a more temporary disturbance of the menstrual function, whether that be amenorrhœa, dysmenorrhœa, or menorrhagia.

The constitutional effects of these disorders come on very gradually in most cases: headache occurs occasionally, with langour, aching across the loins, uneasiness in the uterine region, and deficient appetite. The patient may continue thus a long time, with temporary ameliorations; but ultimately, where the uterine system does not improve, the general health will become worse and worse, presenting certain local, as well as general symptoms, which we shall now examine.

The most prominent of these local phenomena are the following, which I have placed in the order of the frequency of their occurrence:

161. 1. *Pain in the head*, sometimes across the forehead, but often in the back part, occurring frequently without any apparent cause, of great intensity, seldom aggravated by light and sound, and but little affected by remedies.

2. *Pain under the left breast*. This is very characteristic, from

* Observations on Disorders of Females, connected with Uterine Irritation, by Thomas Addison, M.D., &c.

† Commentaries on some of the more important diseases of females, by Marshall Hall, M.D., &c. On the disorders incident to female youth, pp. 1, 15, 41, &c.

its constantly occupying the same spot, about the size of the palm of the hand, a little to the outer side of the heart. It is not increased by a full inspiration, but occasionally there is some tenderness on pressure. The severity of the pain varies much. In many cases there is cough, with slight palpitation, or, to speak more correctly, a consciousness of the heart's action. The stethoscope reveals no morbid phenomena.

From the peculiar locality of this pain, it has often been mistaken for splenitis or pleuritis, and treated accordingly; Dr. Addison, however, is inclined to place its seat in the cardiac orifice of the stomach. This may perhaps be doubtful, but there can be no hesitation in saying that the disease is not inflammatory.

3. *Pain in the back*, or rather midway between the pubis and sacrum, and aching across the loins, increased very much when standing, and, when very severe, not relieved by lying down. In one patient under my care, it alternates with sick headache; as the pain in the back diminishes, she feels a stiffness and uneasy sensation ascending the dorsal and cervical spine, and then the headache sets in. When this transference of the pain is very marked, I have found the spinous processes of the vertebræ tender on pressure, and continuing so until the pain had subsided.

4. *A sense of tightness across the chest*, with occasional attacks of globus hystericus.

Upon examining my notes of cases, I find these four symptoms by far the most frequent, although many others are occasionally met with, and which have been accurately described by Dr. Addison.

These are,

5. *Pain under the margin of the ribs of the left breast*, either confined to a point, or extending from the scrobiculus cordis to the loins. It is only occasionally increased by a full inspiration, but almost always by pressure. It occasionally shoots through the back, but rarely to the top of the right shoulder. It may be constant or intermitting, and, on its subsidence, it is succeeded for some time by fulness or tension, and it is often accompanied by a remarkable sallowness of the countenance. It is difficult to point out the exact seat of this pain: it may, perhaps, be in a part of the colon or duodenum, but it certainly is not an inflammatory affection of the liver, for which it might be mistaken.

6. *Pain in the course of the descending colon.*

7. *Pain in the course of the ascending colon.* In these situations, the pain is variable in intensity, intermitting for days, or even weeks, and aggravated by flatulence.

8. *Pain affecting the abdomen generally.* This is, in fact, a species of neuralgia, often simulating peritonitis, and only to be distinguished from it by some want of accordance in the symptoms collectively.

9. *Pain the stomach.* Occasionally these two latter symptoms are

relieved, but often aggravated by pressure: their previous history will enable us to trace their connexion with uterine derangement.

10. *Pain in the region of the kidneys*, sometimes spreading along the ureters to the bladder, in which case dysuria occasionally occurs.

I have also remarked patients who, when menstruation was irregular, were very liable to attacks of diarrhœa, with griping pain. These are the principal local symptoms of this Protean malady, any one or more of which may be present along with the more general disturbance, and which it requires the nicest tact in diagnosis to avoid mistaking for the results of inflammation of the different organs.

In addition, the organic functions are all *below par*, the sensibility is blunted, the mental powers depressed, and the patient is low-spirited, fretful, or indifferent. If we examine as to the state of the alimentary canal, we shall find the appetite more or less deficient or fastidious, digestion imperfectly performed, and the bowels irregular—sometimes constipated, sometimes too much relaxed. The skin is sallow or pale, and covered generally with a greasy moisture. The muscles feel soft and flabby.

A peculiar cracked condition of the lips and fragility of the finger nails have been described by Dr. Hall. In severe or protracted cases, there is a dark areola beneath the eyes.

It must be borne in mind, that the assemblage of symptoms enumerated above exhibits the most aggravated form of the disease, such as is rarely met with, and which can scarcely when all are present, be distinguished from chlorosis. But there are many minor degrees of the disorder, in which all the symptoms are marked and characteristic, but which do not present so formidable an appearance in reality as on paper.

In some few instances, the disorder is mitigated without the interference of art, and especially in those cases where the integrity of the uterine function is restored. It may, however, remain long stationary, or pass into chlorosis.

162. *Causes.*—It [illegible] been stated, that in almost all cases, this disorder of the [illegible] is connected with disturbance, and especially sudden [illegible], of the menstrual functions. I have observed a precisely similar train of symptoms follow long-continued uterine leucorrhœa or excessive suckling.

163. *Diagnosis.*—The diagnosis of a complaint with such suspicious local symptoms is somewhat difficult at first, and requires great attention.

But by ascertaining the uterine disorders, menstrual or leucorrhœal, by noting the absence of fever and of quick pulse, by comparing the entire of the symptoms with each other, and by tracing the history of the disorder, the neuralgic or hysterical and constitutional affection may be distinguished from the results of inflammation.

164. *Treatment.*—The first object to which attention should be directed, is the removal or the mitigation of any of the special causes

(Amenorrhœa, Leucorrhœa, &c.) The measures most likely to attain this object will be found detailed in the appropriate chapters.

But, over and above the special remedies required for the uterine disturbance, or independent of them if they are unsuccessful, something may be done for the relief of the secondary symptoms. For the purpose of obtaining temporary relief, local bloodletting is frequently employed; it is, however, specially to be deprecated, as besides the exhaustion resulting, and the slight benefit accruing from it (the pain returning, in most cases, after a few hours or days respite, with all its former severity,) it contributes to bring the patient into a state of chlorotic anemia, with all its distressing sequela.

The best thing which can be done is to employ counter-irritation by blisters, &c. over the seat of the pain, renewing them at intervals. Particular attention must be paid to the stomach and bowels. At first a brisk purgative may be given, and this may be followed by some aloetic medicines in combination with some preparation of iron. Alterative medicines are sometimes beneficial.

In some cases, hyoscyamus or belladonna may be useful. I have seen the head-ache relieved by a dose of laudanum, taken for another purpose.

In those cases, it is particularly necessary to husband our resources, and to vary our mode of attack. There is no complaint more *capricious* (if I may so speak), both as to its appearance, and as to the effect of remedies.

CHAPTER V[illegible].

CHLOROSIS.

165. We next come to consider the [illegible] form of the disorder of the general health, which has received [illegible] name of *chlorosis*, or "green sickness."*

And here we shall find more or less of the peculiar character of the variety just described, such as local pains, &c. but with evident aggravation. In chlorosis, the functional disorders are of a much graver character, especially where secretion is concerned: the patient

* Manning on Diseases of Females, p. 63. Astruc. Diseases of Females, p. 171. Blundell. Diseases of Women, p. 236. Ashwell. Diseases of Women, p. 5. Capuron. Mal. des Femmes, p. 62. Siebold. Frauenzimmerkrankheiten, vol. i. p. 365. Waller. Diseases of Women, p. 23.

is obnoxious to the sequelæ of anemia, and, in some cases, the constitution is reduced to the most favorable state for the incursions of organic disease.

166. *Causes.*—By some it has been attributed to the anemial state of the body, arising from various causes, such as bad nutrition, disease, loss of blood, &c., and by others, to deficient uterine action.

M. Roche* regards chlorosis as generally the result of menstrual derangements, although a similar disease, he remarks, has been observed in males.

M. Lisfranc† admits the influence of this function, and quotes M. Bland de Beaucaire, who has reported (in the Revue Med. 1832, tom. 1, p. 587) 26 cases, of which 7 were between the ages of 11 and 17. In 15, the menses recurred regularly, but were of a pale color. Cabanis assigns as the cause of chlorosis, the langour and inertia of the genital organs, and the deficient or irregular action of these organs upon those of nutrition and sanguification.

Dr. Blundell seems to regard the disease as owing to a deficiency of the circulating fluid. Dr. Fox attributes it to disease of the liver.

Dr. Waller coincides with the opinion I have expressed.

In the 3rd No. of Guy's Hospital Reports is a very elaborate paper on "Chlorosis and its complications," by Dr. Ashwell, the lecturer on midwifery in the Hospital School, and as the author is a man of intelligence and observation, I shall endeavour to give an abstract of his views. At page 530, he says, "The following are the principal positions which I shall attempt to illustrate:—1st. That chlorosis, complicated with amenorrhœa, is the most common derangement of the menstrual function; and that between these affections, although there are many points of similarity, yet there are numerous marks of distinction. 2ndly. That if 'chlorosis complicated with amenorrhœa' be of aggravated character, or long duration, it will be productive of functional disturbance, at least of the nervous, vascular, respiratory, and digestive systems; and that if the disease terminate fatally, it will frequently, if not generally, be in phthisis. And 3rdly. That the treatment of chlorosis, to be extensively successful, must be early commenced, and most sedulously prosecuted."

The author does not regard chlorosis as resulting from amenorrhœa, but, on the contrary, as frequently causing it, or being in some way connected with it. He defines it to be "*a peculiar affection of the general health*, most frequently seen at the time when puberty is, or ought to be, established;" yet often commencing long before this period, and also being the cause of its delay; in short, a state of the constitution existing previously to menstruation, but which will be modified according to the integrity with which that function is deve-

* Dict. de Med. et de Chir. prat.

† Lisfranc, p. 217.

loped. The subsequent declining health and consumptive tendency is not considered (if I understand Dr. Ashwell) as a result of a weak constitution, in the general acceptation of that word, or as a consequent of the imperfect establishment of menstruation, but that this imperfection and the deteriorated health result from the chlorosis.

I confess I am more disposed to admit the ingenuity than the correctness of Dr. Ashwell's hypothesis. I see no ground to call that degree of constitutional delicacy which precedes puberty (and equally in both sexes) by the term chlorosis, unless we disconnect that term from menstrual irregularity altogether; for it is certainly not consistent with the result of my own observation, to assume the identity of the prior constitutional delicacy with the severer secondary affection. We constantly see young women, of apparently healthy constitutions, in whom puberty was fairly developed, who subsequently become chlorotic, in consequence of menstrual disorders; and all must have noted patients in whom this tendency alternated with intervals of good health, answering exactly to the state of the uterine function. Again, the precursor of returning health to a chlorotic patient is generally a more copious and better coloured catamenial discharge. All these observations tend to prove, it appears to me, that the primary disorder is to be sought in some derangement of the menstrual function, which acting upon a susceptible constitution, induces all the secondary affections so characteristic of it; and by giving rise to a state of anemia, constitutes the disease which has been called chlorosis, and which (the anemia I mean) in its turn entails a new series of grave and oftentimes fatal attacks.

In the second part of his paper, Dr. Ashwell considers minutely the complications, or, as I would express it, the consequences of chlorosis, both functional and organic, and adds thereto a number of instructive cases.

Sir Henry Marsh observes, that "the disease in reality consists not in a diminished quantity of blood, but in an altered quality, a diminished consistency of this fluid; herein lies its very essence, and any term which signifies the former, not the latter condition, is at least objectionable as applied to chlorosis. In chlorosis the blood undergoes a very remarkable change; its specific gravity is lowered; the clot is small and firm; the serum bears too large a proportion to the crassamentum; water is in excess; the red corpuscules are far below the healthy standard in quantity; their appearance, however, under the microscope is natural; and the fibrin, in the majority of cases, is normal in quantity, firmness, and adhesive power."*

For my own part, after careful examination, I am inclined to consider the disease to result from the absence of uterine action, though how far that may be the consequence of a vitiated state of the blood, I cannot

* Dublin Journal, Nov. 1846, p. 304.

decide. The consequences of anemia, both in men and women, by whatever cause induced, undoubtedly resemble the disease called chlorosis.

Sedentary habits and close confinement, of course, favor its production, or indeed may be said to cause it by their injurious effects upon the sexual system.

It may be said to be endemic in large manufacturing towns, and it prevails also among servants whose occupations confine them closely. Mental distress and the depressing passions are very influential in its production and progress.

167. *Symptoms.*—In illustration of what I have advanced, we find that not only are the head-aches I have mentioned severe and often recurring, but that chorea, hysteria, and epilepsy are met with. There is also temporary loss of memory, diminished sensibility, torpor, &c.; in short, functional disturbance running to the verge of organic disease.

The digestive system and its appendages are equally affected; there is vomiting occasionally, with constant nausea; dyspepsia, with its manifold aches and pains; want of relish for food, &c., indications of the inefficient state of the organs by which the nutrition and reparation of the body are carried on. We find, consequently, that great emaciation takes place, and that the strength gradually (sometimes even rapidly) declines.

The balance of the circulation is destroyed, and hence the palpitations* and repeated hemorrhages, generally from the lungs or stomach, the effect of which is to increase still further that bloodless condition of the body which entails so many miseries. In consequence of this, we have œdema of the extremities, or general anasarca. In some cases, effusion into the cavities has been known to take place, and sudden death.†

* M. Bouillaud has given a short but graphic description of the variations of the sounds of the heart in chlorotic females, in his work on diseases of the heart. He considers '*chlorotic palpitation*' to be a nervous affection of the heart, and he observes, "Chlorotic palpitations are not always accompanied with well-marked 'bruit de soufflet' in the heart; but constantly in severe chlorotic cases the arteries of large calibre, particularly the carotid and femoral arteries, give out varied souffles, sometimes '*le ronflement d'un diable*,' the sound of wind whistling through a narrow slit, the buzzing of beetles, or the cooing of a pigeon. During a period of three years, I have met one hundred times with this curious phenomenon in chlorotic females." (Quoted from a Review of Bouillaud by Dr. Corrigan, in the Dublin Medical Journal, vol. ix. p. 501).

† See Dr. Hall's paper on Chlorosis, in the Cyclopedia of Pract. Medicine, in which such a case is narrated. On examination after death, some serum was found in the ventricles of the brain, in the

This anemial state of the body it is which causes the peculiar pale or greenish complexion, and the sudden and violent attacks of diarrhœa.

The respiration is equally affected: it is performed irregularly, inspirations predominating over expirations, and the slightest effort producing hurry of breathing, and a feeling nearly allied to suffocation.

The surface of the body is not merely pale and exsanguined, but the skin has a flabby, 'doughy' feel, is of a variable but seldom healthy temperature, and generally moistened by clammy, and often by cold, perspiration.

The senses are frequently disturbed, and amaurosis occasionally occurs.

Now it may be readily conceived, without accusing chlorosis as the direct cause of organic disease, that it has reduced the patient to a condition extremely obnoxious to such attacks, and examples of such terminations are not rare. Organic diseases of the brain and liver have been observed, but much more frequently has phthisis terminated the patient's sufferings.*

168. *Diagnosis.* - There is little danger of confounding chlorosis with any disease or condition of the body, except that arising from loss of blood *(acute chlorosis—Dr. Gooch)*, and the history of the complaint will probably clear up any obscurity.

We must still, as in the former variety of the disorder of the general health, carefully distinguish the functional derangements arising from this cause from those arising from inflammation, although the difficulty of doing so is very much augmented by their increased severity. Minute inquiry into the history of the patient, the sequences of the secondary attacks, together with a careful comparison of the signs and symptoms present, will probably lead us to a correct conclusion.

Dr. Hall has proposed another means of diagnosis, viz. the effect of loss of blood, a few ounces causing fainting in these affections, whereas three times as much may be abstracted without any such result, when the disease is inflammatory.

There is one serious objection to this test, namely, that abstracting

pleuræ, and in the pericardium. The lungs also were gorged with serum, but no organic change was discovered, which would account for the death of the patient. The blood was pale and aqueous, and the clots formed in the large vessels were small and light colored. Dr. Hall likens the sudden death in this disease to that caused by great loss of blood.

Andral (Anat. Pathol. vol. i. p. 278,) has stated that the proportion of the serum is increased, and that of the crassamentum diminished, in the blood of chlorotic females.

* Ashwell on Diseases of Females, p. 19.

blood from chlorotic or anemial patients is the most hazardous experiment possible.

169. *Treatment.*—Much stress has been laid by certain writers on the almost universal efficacy of purgative medicines in this complaint; certainly they are of great value, though they have probably been over-rated.* Aloetic purgatives, in combination with some preparation of iron, will be found the most useful. Dr. M. Hall prescribes a pill composed of equal parts of aloes and sulphate of iron. Dr. Ashwell gives the ferri ammoniat. The iodide of iron has been especially recommended by M. Solon,† and by Dr. Ashwell.‡ It seems particularly adapted to patients of a strumous habit of body, and who are obnoxious to glandular swellings. It may be given in doses of two grains a-day, in any vehicle not containing tannin or other astringent

* Dr. Ashwell's observations on this point are so judicious, that no excuse is necessary for quoting them. "At first, then, a due evacuation of the bowels must be daily secured; and much will depend on the kind of medicine by which this is effected. If mercury and drastic purgatives be frequently and largely employed, intestinal irritation will ensue, evidenced by unhealthy and undigested motions, mixed with mucus, and occasionally with blood. If the purging be excessive, if it be exclusively relied on for the cure, debility and exhaustion will result, and in place of amelioration, the whole of the symptoms will become aggravated and severe. The best aperients are aloes, rhubarb, the sulphate of soda and manna, and if an alterative be necessary, the hydrarg. cum cretâ. Nor must we forget that an injection of a pint of warm water, two or three times a-week, into the rectum, is of all measures the most efficacious in aiding peristaltic action, and in removing the load of the large intestines. The compound decoction of aloes, with the compound tincture of cardamoms; the compound aloetic pill, with the oil of cassia and hyosciamus; and the vinum aloes, with the compound tincture of rhubarb, are the forms of these medicines I prescribe. The combination with any purgative or aperient remedies, of mild cordials, is exceedingly important."—*Guy's Hospital Reports*, Part 3, p. 552.

"There are three principal modes in which it is proposed to manage the chylopoietic viscera: by the use of active purgatives, according to Hamilton's method; by the administration of milder laxatives, consisting of the blue pill and so on, a method perhaps which is the safer, as it is the less violent; or by the mere clearance of the bowels, under emetics, and a few doses of ordinary purgatives. Of these three modes, the second is that which I should recommend to your attention."—*Blundell*, p. 238.

See also Cazenave, Bull. Med. du Midi, April, 1839.

† Nouv. Dict. de Med. et de Chir. prat., art. Iode.

‡ Guy's Hospital Reports, Part i. p. 128, and Part iii. p. 555.

matter. In some constitutions it gives rise to head-ache, vertigo, nausea, heat, and a sense of weight at the hypogastrium; but these unpleasant symptoms may be removed by taking some carbonate of magnesia at night, by suspending the medicine, or by diminishing the dose.*

MM. Raciborski, Miquelard, and Quevenne prefer the metallic iron in a state of minute subdivision; it is prepared by passing a stream of hydrogen over an oxide of iron enclosed in a tube, exposed to a red heat.†

Sir H. Marsh considers drinking the natural waters at a chalybeate spa the best mode of administering iron. The wine of iron is very suitable for children, alone or in combination with rhubarb. The citrate of iron and ammonia is valuable in those cases of chlorosis characterized by coldness of the extremities. Bewley's effervescing chalybeate is also praised, and justly; or the following formula may be used: ℞ Aq: Citratis Ammoniæ, ℥iii; Aquæ puræ, ℥vi; Syrupi, ℥i; Citrat. Ferri et Quinæ gr. i to gr. iii. It is to be taken three times a-day.‡

* M. Blaud has highly recommended the following compound;—Take sulphate of iron and subcarbonate of potash, of each half an ounce; reduce them to powder separately, and then mix them gradually; add some mucilage of gum adragant, so as to form a mass, which is to be divided into 48 portions; one of them is to be taken morning and evening for three days; then an additional one in the middle of the day for the next three days, and so on, increasing one or two every three days.

The effects are quite surprising, according to M. Blaud; the disordered health is speedily restored, and the deranged functions are rectified.

M. Adorne omits the potass. carb. The following form has been found useful:

℞ Ferri Subcarb.	... ...	℥i
Sodæ Carb.	... ...	ʒi
Pulv. Nucis Moschatæ		
—— Rad. Glycyrrhiz. āā	...	℥ii
Sach. Albi	... ...	℥ss
Pulv. Calumbæ vel Zingib.		
Cinnamoni āā	...	ʒ iss

Olei Anisi gutt. iv. Misce pulveres inter se in mortario. Dosis—ʒi bis terve die e lacte.

The powder is best kept in a wide-mouthed glass bottle, well-corked, and measured out by a tea-spoon.

† Ranking's Abstract, vol. 1, p. 134.

‡ Dublin Med. Journal, Nov. 1846.

M. Benedetti has reported most favorably of the tannate of iron, as being more effectual in a shorter time than the other preparations. The dose is from 5 to 30 grains daily.*

M. Selade thinks that the proto-muriate, or hydro-chlorate, the carbonate, or the lactate of iron, are the best preparations.†

Other mineral and vegetable tonics deserve a trial, and will often be found useful.

Peculiar care will be required in adapting our treatment to the various functional aberrations. Counter-irritation by blisters, mild alteratives, mercurial inunction, &c. are all useful in their turn; and much benefit will often accrue from remedies acting upon the gastro-intestinal mucous membrane.

It may be a serious question, whether we are justified in using any of the medicines which act directly upon the uterus, until the constitution shall have rallied somewhat. Menstruation, however induced, is generally a favorable occurrence; but there are cases where the deficiency is not in the uterine action, but in the '*materiel*' to be acted upon, and here manifestly emmenagogues would be pernicious.

Stimulating injections into the vagina have been tried with success, as far as inducing the catamenial discharge. "The ammonial injection, composed of one drachm of the pure liquor ammoniæ to a pint of milk, daily injected into the vagina, has proved very efficient in the hospital." (*Ashwell*). Marriage has occasionally cured chlorosis.

The patient should be warmly clothed, and take a fair amount of exercise. The diet should be nutritious, adapted to the condition of the digestive organs, and accompanied with a moderate allowance of wine.

In conclusion I would observe, that the treatment of the secondary affections must be left to the judgment of the practitioner; it is impossible to do more than point out the general principles by which we are to be guided.

CHAPTER VIII.

IRRITABLE UTERUS.

170. WE are indebted to the late distinguished Dr. Gooch for the recognition and description of this disease.‡ He gave it the name it bears at present, from the supposition that it has the same relation

* Med. Times, Oct. 1846.

† Archiv. Gen. de Med. Belge. Feb. 1845.

‡ On the more important Diseases peculiar to Women, p. 310.

to inflammation of the uterus, which the so-called "irritable breast" and "irritable knee-joint" have to inflammatory affections of those parts.

Dr. Gooch has defined it as "a painful and tender state of this organ (i. e. the uterus), neither attended by, nor tending to produce, a change in its structure."

By other writers* it has been considered as a kind of chronic inflammation. Without questioning the accuracy of their observation, it appears to me that these authors describe an affection, probably, as they suppose, chronic inflammation, quite different from the one so ably delineated by Dr. Gooch. Certainly, in the cases I have seen, there was no ground whatever for the supposition of inflammatory action.

Dr. Gooch's patients were, most of them, married women: it does occur, however, in unmarried females as well, and with as well-marked symptoms.

There is no limit, within the menstrual age, to the period at which it may arise, and it is seen in persons of every temperament.

171. *Causes.*—The most frequent causes are, bodily exertion when the uterus is in an irritable and excited state; as, for instance, a long walk during menstruation; going about immediately after abortion, or too soon after delivery; excessive coition, and astringent injections improperly used. These are the most striking causes; but it may come on after great fatigue merely, such as dancing, dissipation, late hours, long carriage-journies, &c.

172. *Symptoms.*—There is a deep-seated pain in the lower part of the abdomen, and in the back and loins, varying in intensity, but from which the patient is never quite free. It is greatly increased when the patient is standing or taking exercise,† and generally diminished by lying down; sometimes, however, paroxysms occur, even when the recumbent posture is strictly observed. It is also much more severe for a few days preceding and during menstruation. Cathartics aggravate the sufferings of the patient.

The menses generally return regularly as to time (anticipating a day

* Dewees. Diseases of Females, p. 387. Davis. Obst. Med. vol. i. p. 348. Guilbert. Considerations pratiques sur certains affections de l'Uterus, 1826. Scott. Ed. Med. and Surg. Journal. Montgomery. Dublin Journal. Cyclopedia of Pract. Medicine, art. Uterus, pathology of.

† There are exceptions to this, however. A patient of mine, laboring under this painful affection, and who cannot stand five minutes without agony, can yet travel in a half-reclining posture in a carriage for days together, not only without the slightest inconvenience or aggravation of her sufferings, but with manifest local and general improvement.

or two occasionally), but the quantity often varies from the usual standard. In some cases I have attended, they were scanty; in others, rather profuse. The quantity of the discharge differs in different women; it may be paler than usual, or it may be mixed with clots. In all the examples I have seen, the performance of the function has been exceedingly painful.

The patient is liable also to attacks of uterine leucorrhœa, though it by no means invariably accompanies the disease.

There is always some degree of constitutional sympathy, although less than might be expected, if the amount of suffering be considered. The pulse is ordinarily not more frequent than in health, but the slightest emotion will quicken it.* The temperature of the skin and the state of the tongue are generally natural. Headaches, sometimes alternating with pain in the back, are frequent; the stomach becomes delicate, and the appetite deficient, and somewhat fastidious. The bowels are apt to be constipated. The patient also loses flesh; but some part of this, as well as of the gastro-enteric derangements, is fairly attributable to the privation of air and exercise, occasioned by the pain and the necessity for absolute rest.

If an *internal* examination be made, the uterus will often be found tender on pressure, in proportion to the amount of pain present.†

The cervix and body are slightly swollen and tender, but not hard; the os uteri is unaltered, its edges are not indurated. The vagina is perfectly healthy.

Although these phenomena are usually observed, yet in many cases no deviation from the normal condition (in size or sensibility) can be detected. The disease may persist for months or years, it may be arrested by medical treatment, or it may subside spontaneously. It offers an insuperable impediment to conception (as far as our present knowledge of it goes), but as it does not terminate in any of the organic uterine diseases, the life of the patient is not placed in jeopardy by it.

173. *Diagnosis.*— As pain in the back is the most unvarying symp-

* "The general symptoms are, an increased frequency and a preternatural firmness of pulse. This frequency is commonly augmented toward evening; the skin then becomes warmer, and the cheeks are reddened by a slight hectic blush. But the pulse is *always* more frequent and corded than natural, even in the absence of the exacerbation; but least so, early in the morning."—*Dewees on Diseases of Females*, p. 313.

† "Indeed the tenderness is so great and so constant, that great suffering is experienced if the patient incautiously sit down too suddenly, and particularly if upon a hard, resisting seat; and the privileges of matrimony cannot be consummated without much suffering."—*Dewees. Diseases of Females*, p. 315.

tom of uterine disorders, it alone will not throw much light upon the diagnosis of this disease; but its persistence during the intervals of menstruation, and its increase previous to each period; the absence of discharges not menstrual; the aggravation occasioned by the upright position, and by exertion; the slight constitutional disturbance; the tenderness of the cervix on pressure, with the other results of a vaginal examination, will enable us to arrive at a pretty correct conclusion.

It may be distinguished—

1. *From neuralgic dysmenorrhœa*, by the pain continuing more or less severe throughout the interval, instead of ceasing with the catamenia.

2. *From prolapse of the uterus or vagina*, with which it might be confounded on account of the distress on standing or walking; by the natural position of the contents of the pelvis, as ascertained by a vaginal examination.

3. *From any organic change*, by the absence of vaginal discharges, and by the natural condition of the uterus and vagina, as ascertained by an internal examination.

174. *Pathology*.—If I may judge from the cases which have come under my own observation, and which closely resemble those related by Dr. Gooch, I should have no hesitation in coinciding with the opinion of that distinguished physician, as to the nature of the disease.

It appears to be a simple neuralgia of the uterus, of variable intensity, and of irregular duration, not very amenable to the resources of art, but not tending to disorganization.

I have already mentioned, however, that several practitioners of eminence are inclined to consider it as a modified chronic inflammation of the uterus.

175. *Treatment*.—There is scarcely any disease which is so tedious of cure, and none so liable to relapse. The slightest relaxation of the strictest regimen will often be followed by a recurrence of all the severe symptoms.

The *indications* are—1st, To abate the pain. And 2nd, To amend the constitutional condition of the patient. For the fulfilment of the first indication, the patient must be kept in a state of absolute rest. She should either remain in bed (with the mattrass uppermost), or lie on a sofa the entire day, the shoulders being nearly on the same plane as the rest of the body. With very few exceptions, all personal exertion or carriage-exercise must be avoided.

If the irritation be considerable, it will be advisable to have recourse to small (but, if necessary, repeated) local blood-lettings, by scarifications of, or leeches to, the cervix uteri, or cupping the loins. In this, however, great caution must be observed, or much mischief may result.

Counter-irritation, by a succession of small blisters, of the size of a watch-glass, or by dry cupping, is of great service. The latter mode I have found peculiarly useful, because it occasions no incon-

venience to the patient, and also because it can be used in many cases where blisters are inadmissable.

Much relief will be afforded by vaginal injections, at first of warm, and afterwards of cold water, twice a day.

Narcotics, such as opium, hyosciamus, belladonna, &c. alone, or in combination with camphor or assafœtida, will often alleviate the pain; but should the stomach be too irritable, they will be found as efficacious given in the form of enema. Opium or belladonna plasters to the sacrum or abdomen are of service.

These means are to be employed with especial diligence and tact at the approach of the menstrual period, in order to mitigate, if possible, the suffering which accompanies that secretion.

The bowels must be kept free, but the medicine used for this purpose should be very mild, as intestinal irritation always aggravates the complaint. A warm bath has sometimes been found useful.

Mr. Fernandez is said by Dr. Gooch to have succeeded in relieving a certain class of cases by a mild course of mercury: this, however, requires great caution.

Mr. Hunt of Dartmouth has found small doses of arsenic very useful.*

The improvement of the constitution must be attempted during the menstrual intervals, and will be most likely to be effected by the exhibition of chalybeate tonics, by a well-arranged, nutritious, but not too stimulating diet, and, in the few cases where it can be borne, by carriage-exercise, or by remaining some time in the open air.

CHAPTER IX.

UTERINE LEUCORRHŒA.

176. The term leucorrhœa, or "whites," is applied by most authors to a whitish or colorless discharge from the vagina, whether it be the result of morbid action of the lining membrane of the uterus, the vagina, or of both combined.

That either of these portions may be thus affected we should naturally expect, from the anatomical fact, that the membrane lining both cavities is continuous, and in structure identical. I have already described such an affection of the vagina; and that the uterine membrane is similarly affected, is proved by *post mortem* examinations, where a quantity of this fluid has been found in the uterus.

* Medical Gazette, April 7, 1838.

Blegny found this whitish fluid accumulated in the uterus of a female subject to whites. Blattin says that, in nine cases out of twenty-four that he examined, the discharge proceeded from the uterus.

The older writers all allude to this disease of the uterus, and mention more or less of the symptoms, but without distinguishing it from vaginal leucorrhœa: several later British authors seem to have given up the question of such distinction altogether, and are content with describing, in an uncertain and confused manner, under the general term "leucorrhœa," the symptoms of two different diseases.

Avicenna and Savonarola supposed the whites to be derived from the veins of the uterus. Sylvius, Cullen, &c. from the vessels which secrete the menses. Bonnet, Dolœus, Schneider, Morgagni, Riofrey, &c. from the lining membrane of the uterus or vagina.

The first English author on midwifery speaks of a relaxed state of the uterus marked by a white discharge.*

Baglivi says, "Si verò durante menstruatione, fluor albus evanescat, et, eodem finito, denuo regrediatur, pro certo habeas mulierem fluore albo *uterino* laborare. Cætera signa fallunt, hoc verò constans est, et mulierum dolum apertè deludit."†

Dr. Freind (1729) speaks of the fluor albus arising from a plentitude of humours, and vicarious of the menses; and he says that women in whom this is the case suffer less from the suppression of the menses than others.‡

Astruc (1762) describes a species of whites occurring periodically in chlorotic females, as a kind of substitute for menstruation, and which is also met with in others, commencing a few days before, and persisting some days after, menstruation.

Manning (1775) says that fluor albus may arise from the vagina or uterus; but in speaking of the special causes, it is observable that they are not such as would act on the vagina, but only on the uterus.

Leake (1781) considers it a disease of the womb and its contiguous parts, and he speaks of it as supplanting the menses; it proceeds, in his opinion, from the vessels which are subservient to menstruation.

Denman mentions, that it may proceed either from the uterus or vagina; and that the fluid may be either the natural discharge increased in quantity, or an acrimonious secretion.

Dr. Cullen has described the distinctive marks of this disease better than almost any other writer.

Dr. Alexander Hamilton distinguishes the uterine from vaginal leucorrhœa, and describes very accurately the different kinds of discharge.

* Byrthe of Mankinde, by Thomas Raynalde, 1634.
† Prax. Med. lib. ii. ch. viii.
‡ Emmenologia, p. 105.

Dr. Burns describes, though very shortly, the two varieties, and points out the increase of the uterine leucorrhœa before the eruption of the menses.

Dr. Locock considers it difficult to establish such a distinction, and does not attempt it.

Dr. Blundell treats of vaginal leucorrhœa only.

Dr. Lee remarks, "Our repeated examinations of the uterus after death have rendered it certain, that in many instances of leucorrhœa the fluid is secreted by the lining membrane of the uterus, and not by that of the fallopian tubes or vagina."

Almost all French writers mention this variety, and indeed generally restrict the term leucorrhœa to a discharge of uterine origin.

Gardien and Capuron thus treat of it. Nauche calls it "Catarrhe uterine," and points out very accurately the varieties connected with menstruation.

Boivin and Dugès allot a chapter to it; and a very good account of it is given in the Dict. de Med. et de Chir. prat., art. Leucorrheè.

Girard observes, "Il nous est tres rarement arrivè de trouver l'uterus completement exempt de leucorrhee."*

M. Marc d'Espine (whom I have before quoted), has given the result of his researches with the speculum on the subject of leucorrhœa, in the Archiv. Gen. de Med. for Feb. 1836. He notices its continuance during the menstrual intervals, and also its occurrence just before or just after the menstrual evacuation. The climate of the middle and north of France seems most favorable to its production; and women with very light or very dark hair seem most liable to it. The character of the constitution seems to exercise very little influence. Out of 19 women subject to whites habitually, 6 were robust, 9 were moderately strong, and 4 weakly.

An examination with the speculum gave the following result in 193 cases:—In 23 the uterine orifice was found dry; in 40 there was just a drop of discharge in the orifice; in 130 the discharge was abundant. The orifice may be quite healthy, pale, red, or bright red, and occasionally it is granulated and bloody.

The following table will exhibit the character of the discharge, and the state of the uterine action, in 111 cases.

	Orifice healthy.	Orifice reddish.	Orifice deep red and granulated.
Aqueous discharge	7	3	1
Albuminous transp. discharge	30	6	6
Album. semi-transp. discharge, streaked blue, grey, or yellow	13	19	10
Opake discharge, streaked	3	7	6
	53	35	23

* Rev. Med., Dec. 1837.

See also Lisfranc, Mal. de l'Uterus, p. 246. Nivel and Blattin,

We cannot doubt that the distinction must be important for the right understanding of the pathology of this part, as it is for the successful treatment, inasmuch as the two organs (uterus and vagina) differ as much in functional peculiarities, as in the sympathetic derangements which their diseases produce in distant organs, and in their effects upon the constitution generally.

Nor is this extraordinary, for we know (in the case of other parts) that the same disease of different portions of a membrane may exhibit altogether different morbid phenomena, dependant (in many instances) upon the subjacent tissue or organ.

It is on this principle that I would explain the differences in the train of symptoms and constitutional suffering, which may be observed in vaginal and uterine leucorrhœa, where the disease is essentially the same.

That in some cases the diagnosis may be difficult, and in a few impossible, must be admitted; but that in by far the larger number it can be satisfactorily established, I have no doubt.

Believing the separate existence of this disease, as well as its combination with a similar affection of the vagina, to be beyond question, and conceiving the distinction to be possible in most cases, I shall now describe it as it has presented itself to me in practice.

177. Before, however, I proceed to detail the symptoms and course of the disease, it may be well to point out the circumstances under which it occurs, not only as illustrative of its nature, but as affording *data* for our diagnosis.

1. In young females of delicate constitution, it is not uncommon to find a secretion of "whites" at one or two of the monthly periods preceding the development of the catamenia, and vicarious of them.

Cases of this kind repeatedly occur, and it has been already pointed out how much their treatment must be modified by the discovery that the uterine system is already in action, although giving rise to a morbid product for want of proper "*material*" to act upon.

2. In suppressed menstruation, the subsequent monthly periods are often marked by a discharge of "whites," nearly the same in quantity, and continuing as long as the natural secretion.

3. The intervals of menstruation may be occupied by uterine leucorrhœa; in these cases the discharge increases two or three days previous to the appearance of the menses, and re-appears in great quantity after their subsidence.

It not unfrequently happens, that the uterine leucorrhœa ultimately supersedes the catamenia, and becomes vicarious of that discharge.

This is by far the most common variety of uterine leucorrhœa, and as it does not at first interfere with the regular return of the "courses," it is very liable to be passed over unnoticed.

Arch. Gen. de Med., Oct. 1839. Siebold, Joerg, Steinberger, and others describe the uterine variety.

4. Menorrhagia is occasionally caused, and very often accompanied by this white discharge, which increases just before and after the menstrual periods, and sometimes occupies the interval. This complication appears to add much to the distress of the patient, and the menorrhagia is not easily relieved until the leucorrhœa is cured.

5. About the "cessation of the menses," the few last periods are often marked by the occurrence of "whites," instead of, or alternating with, the proper menstrual discharge.

6. In chlorotic patients, uterine leucorrhœa is often vicarious of the menses. I saw a patient not long since, in whom this substitution continued many months.

7. After abortion, a white discharge is, in many cases, secreted either constantly or occasionally, for some months, and this condition of the uterus appears to predispose to successive abortions.

8. After child-bearing, when the distinctive character of the lochia has disappeared, this inodorous white discharge will often continue for a month or six weeks: or, in females confined for the first time, we may observe, at the termination of the first, or more frequently of the second month after delivery, a considerable flow of "whites," which may either cease after two or three days, or in smaller quantity become persistent. The menses sometimes appear subsequently, and supersede the uterine leucorrhœa. The occurrence of this discharge, at this particular time, occasions great alarm, from a supposition that it indicates serious disease of the uterus.

178. These are the principal circumstances under which I have observed the disease, and in which little doubt can be entertained as to the source of the discharge. In all the varieties it exists either concomitantly with, or immediately succeeding to, an evident uterine affection, or it is complicated with menstruation. In the former, there is an *à priori* presumption that the discharge is from the uterus; and in the latter, the effects of the periodical determination of blood to that organ, upon the quantity of the secretion, would seem to point to a similar interference, especially when we find that no such augmentation is observed in vaginal leucorrhœa.

At the same time, it cannot be denied that vaginal leucorrhœa may be also present in any of the foregoing cases, although the uterine disorder be predominant, and modify all the symptoms. Neither is it asserted that all cases are as obvious, and as easily to be made out, as it would appear from the description on paper.

179. We are now prepared to consider more closely the nature and progress of this disease. It may be defined as *a more or less profuse discharge of fluid secreted by the lining membrane of the uterus, varying a good deal in quantity and color, but neither accompanied nor followed, necessarily, by disorganization of the tissue of the womb.*

It may attack females of all ages; the *acute* form is more frequent in younger, the *chronic* in elder persons. It is observed in women of

every temperament, according to the peculiar cause. In the leuco-phlegmatic, in whom, from deficient "*materiel*," the uterus appears unequal to the secretion of the florid catamenia, or in whom, from constitutional causes, the vessels of the mucous membrane lining the womb are in a state of unusual activity; in the plethoric and robust, in whom the circulation, rapid and energetic throughout the whole system, is peculiarly so in the sexual organs during their functional life; and in the melancholic, whose mental depression so frequently aids in the aggravation of what was originally a trifling malady, and whose fears are acutely alive to any disorder affecting these parts.

180. *Causes.*—These are so numerous, that I can do little more than mention them. They consist partly in the ordinary and extraordinary local stimuli, partly in more general impressions, and partly also in certain states of the constitution.

Amongst the latter, we find deficiency of secretive energy, as exhibited in those cases where uterine leucorrhœa is vicarious of, or introductory to the menses; frequent abortion or child-bearing, over-suckling, scrofulous habit, &c.

It may also result from cold, fatigue, deficient nourishment, too stimulating diet, certain localities or atmospheric changes, sedentary employments, suppression of eruptions, &c.

Of the first species of cause, (local stimuli) we may enumerate excessive coition, the use of emmenagogues, stimulating injections, the irritation arising from a pessary in the vagina, or from worms in the rectum, &c.

181. *Symptoms.*—The attack itself may be either *acute* or *chronic*; the former is comparatively rare, though I have seen some well-marked cases of it.*

The chief difference between this and the chronic form consists in the greater degree of local suffering and constitutional excitement present. The pulse is quickened, the skin is hotter than natural, and there is some thirst. The patient is very liable to hysteric paroxysms.

If an internal examination be made, the cervix and body are somewhat tender to the touch, and perhaps slightly swollen. There is no perceptible increase of heat, and the discharge does not differ from that observed in the chronic form.

The uterine irritation may be communicated to the bladder and urethra, giving rise to spasmodic retention of urine.

* I am indebted to the kindness of my friend Dr. Graves (amongst many other favors) for the opportunity of observing and treating a case of this kind in the Meath Hospital. The patient was about 30 years of age, had borne one child, and had not menstruated at the time I saw her, for seven months, during which time there had been a constant discharge of whites, increasing for a few days every month, and latterly becoming very profuse at each period. Hysteric paroxysms

If these cases be not cured, they subside gradually into the chronic state.

In the slighter and more recent cases of *chronic uterine leucorrhœa*, the symptoms are mild, and there is but little distress experienced; a degree of langour, occasional weakness in the back and loins, a headache now and then, the complexion paler than natural, with an unusual degree of moisture about the external parts of generation, are the principal variations from the healthy condition.

But in the more aggravated cases, and especially in those where the leucorrhœa has gradually encroached upon and superseded the catamenia, the effects are very severe. There is considerable local suffering, a constant aching or pain in the back, or, to speak more accurately, midway between the sacrum and pubes, (i. e. in the uterus) a sensation of weight in the pelvis, and occasionally of bearing down.

The constitutional distress is also in proportion; the patient complains of langour and indisposition to exert herself, of great exhaustion and debility; the pulse is generally small, weak, and rather quicker

occurred three or four times a day; pulse about 90; skin rather above the natural heat; some thirst. She suffered much from spasmodic retention of urine.

On examination, I found the cervix uteri somewhat puffy and tender, but neither enlargement of the uterus nor heat of vagina. I ordered the loins to be cupped, and a blister applied subsequently. Vaginal injections of tepid water were administered twice a day, and the bals. copaibæ was given. Those measures afforded much relief. In the course of a week the discharge diminished greatly, and the menses reappeared; and, by persevering in the same plan of treatment for about a fortnight longer, she was discharged cured.

M. Lisfranc has described a very severe form of acute uterine leucorrhœa, much more aggravated than any I have seen. He says, "Often, after some inappreciable cause, an unpleasant itching of the genitals is felt, increasing until it reaches to the uterus; to this is joined a sense of heat and weight in the pelvis. The hypogastrium becomes tense, and sensible to the touch. The womb seems to press inconveniently upon the perineum. The patient experiences dragging about the loins, extending to the groins, hip, sacrum, and thighs. There is frequent desire to pass water. The pudendum often participates in the tumefaction of deep-seated parts, and hence, standing and moving is very painful; and if the swelling of these parts be considerable, it may be impossible to remain in a sitting posture. This state is ordinarily accompanied by nausea, lassitude, and 'malaise;' sometimes by pain in the joints. About the third or fourth day, if the disease be not previously arrested by appropriate treatment, a clear, limpid, viscous discharge escapes from the vulva."—*Mal. de l'Uterus*, p. 249.

than natural; the skin has a yellowish or greenish tint, sometimes flabby and moist, at others dry and hot; the eyes appear sunken, and are surrounded by dark circles; in short, the case may closely resemble chlorosis.

The headaches are frequent and very severe, but without evidence of vascular excitement; there is no intolerance of light or sound. In many cases the pain is seated in the back part of the head.

Vertigo and fainting are not uncommon. Sympathetic pains in distant parts form a very characteristic part of the suffering.

The tongue is seldom dry or loaded, it is generally of a yellowish red color, flabby, and indented by the teeth. The appetite diminishes, and becomes fastidious; and torpor of the bowels succeeds, with deficiency of the hepatic secretion. There is occasionally observed an eruption (acnè punctata or rosacea,) on the forehead and face.

An examination, *per vaginam*, reveals sometimes, though rarely, a slight enlargement of the body of the uterus, with some tenderness on pressure in the *acute* form, but little or none in the *chronic;* the os uteri is rather more open than in the healthy state. More frequently, however, no additional information is gained by this examination.

An examination with the speculum may show the mucous membrane of the cervix pale, slightly rose color, deep red, or spotted; but no inference can be drawn form this as to the nature of the discharge.*

The discharge varies very much in quantity. I have known it so profuse as to oblige the patient to use several napkins in the course of the day.

In most cases, it is nearly colorless and semi-transparent: it has, however, been observed of a greenish or brownish tinge. It possesses different degrees of consistency, from the ordinary thin mucus up to the gelatinous or curdled fluid described by Hamilton and Nauche.†

It is generally of a bland character, and does not irritate the parts with which it comes in contact; but in a few instances I have known it to be very acrid, causing excoriation of the labia and surrounding skin.

I have already referred to the question, as to whether a discharge of this kind may give rise to gonorrhœa in the male, and I have stated two cases which seem to bear upon the point.

The *duration* of the disease is variable. The cases connected with the menstrual function are generally the most prolonged.

The attack may cease spontaneously after running a certain course, or it may be cut short by the use of appropriate remedies. It is very rare to meet with a case which resists all our efforts.

182. *Pathology.*—From the constitutional characteristics of many individuals thus affected, it has been supposed that uterine (as well as

* See page 142. Donnè and Bonnet, Med. Gazette, Dec. 1837.

† Dr. Ashwell's case, Ryan's Journal, June 24, 1837, p. 372.

vaginal) leucorrhœa originates in debility, a condition the opposite of inflammation.

That the general system may be in such a state is very probable, but it by no means follows that the individual organs are so. On the contrary, we know that in many cases of constitutional weakness, the cause must be sought in the inflammatory condition of certain organs. In the present instance, this appears to be the case; for if we consider the local distress, the increased secretion, the course of the disease, and the remedies which are most successful, we can have but little hesitation in attributing all to the effects of inflammatory action, generally subacute or chronic, of the mucous membrane lining the uterus.

As to the identity of the vessels engaged with those which secrete the menses, an opinion advanced by some authors, it is very difficult to speak decidedly. In some cases, as where uterine leucorrhœa becomes vicarious of the catamenia without any intermediate steps, it appears not improbable that the vessels may be the same, though the products are so different.

M. Mojon de Genés believes that the extra permeability of the capillaries of the uterus is the condition which gives rise to leucorrhœa. But this mechanical hypothesis leaves us without any means of explaining the series of vital phenomena which result, and which can only be accounted for on the supposition of deranged vital action.

183. *Diagnosis.*—Uterine leucorrhœa may be confounded with uterine gonorrhœa, with vaginal leucorrhœa, and with the white discharge arising from inflammation of the glandular apparatus of the cervix, &c.

1. *From uterine gonorrhœa* it is with difficulty distinguished, unless the superficial erosions described by Ricord be present. In uterine gonorrhœa (when acute) there is generally a burning pain all along the genital canal, with pain on coition. The discharge is of a deeper color than in leucorrhœa, and there may be scalding on passing urine, with urethral discharge.

2. *From vaginal leucorrhœa* it may be distinguished by the circumstances in which it is observed, as, for example, after abortion and delivery; preliminary to, and vicarious of, the first menstruation, &c. or by its peculiarities at the menstrual epochs, and its greater effect upon the constitution.

I have already stated that when uterine leucorrhœa occurs during the intervals of menstruation, the discharge is always increased after the catamenia cease, and most frequently before they appear; and that it gradually encroaches upon the due performance of that function, rendering the flow less copious or less regular. As far as my experience goes, no such phenomena occur with vaginal leucorrhœa. Again, after careful investigation of many cases, I doubt very much whether vaginal leucorrhœa ever gives rise to the severe constitutional symptoms I have detailed, and which are very often attributed to it; at

any rate, I am sure that such cases are very rare. The results of any mode of treatment are perhaps scarcely fair grounds of diagnosis, but they may afford some confirmation of an opinion derived from other sources; and I have invariably found that astringent injections, so beneficial in vaginal leucorrhœa, are injurious in the uterine variety.

Dr. Jewel, in the excellent little work I have quoted before, proposes a test for uterine leucorrhœa, founded on the supposition that if the discharge be from this cavity only, it will not issue therefrom during the night, when the patient is lying down. If a sponge be introduced over-night, and removed before rising in the morning, and there be no discharge upon it, he concludes that the vagina is unaffected, and that the leucorrhœa by day is uterine. If the contrary be the case, he regards the vagina as the seat of disease.

No doubt, this ingenious method may be decisive in some cases—in all cases indeed where there is no discharge on the sponge; but this will only happen where the discharge is so small as to be contained in the cavity of the womb (which is about the size of an almond). If it be more than this, it must escape, no matter what be the posture of the patient; and so the sponge may be soaked therewith, without the vagina participating in the complaint.

Moreover, in all cases where the two species of leucorrhœa co-exist, and in which generally the predominant *symptoms* of the uterine affection are very recognizable, this test is inadequate as affording evidence of the vaginal disease only, and mischievous as leading us to overlook the uterine affection.

3. *From inflammation of the glandular apparatus of the cervix uteri*, by the regular white opaque discharge, and the tenderness on pressure peculiar to that disease; the occurrence of either of which phenomena is accidental, and only occasional in the disease under consideration.

4. *From erosion and ulceration of the cervix*, only by the use of the speculum: the local and general symptoms are very similar; the finger alone is inadequate to detect the difference, but the speculum will show that in one case the surface is unbroken, though it may be inflamed; in the other we shall find congestion, with superficial destruction of the mucous membrane.

5. *From the contents of an abscess of the uterus, ovary, or cellular membrane, discharged through the vagina*, by the sensible qualities of the purulent matter in the latter case, and by their absence in leucorrhœa; by the absence of previous symptoms of uterine or ovarian disease, and by the actual symptoms of uterine leucorrhœa.

184. *Treatment.*—There is no more striking distinction between the two species of leucorrhœa, than is to be found in the effects of astringent injections. In vaginal leucorrhœa, they are extremely successful; the symptoms are ameliorated, and the discharge arrested without any unpleasant consequences. This is not the case in uterine leucorrhœa;

if no evil results from their employment, the patient derives no benefit, but continues to labor under the discharge for months together. In other cases, I have known them to cause great irritation, with menorrhagia, and an aggravation of the local distress.

In cases of the *acute form* of uterine leucorrhœa, it will generally be advisable to commence by cupping the loins, or applying leeches to the vulva. After this, hip-baths and vaginal injections of warm water (a uterine warm bath) may be employed, until the acuteness of the attack has subsided, and the patient is in a condition favorable to the application of counter-irritation.

At this stage in the *acute*, and at any period in the *chronic* form, a blister may be applied to the sacrum, and repeated once or twice, if necessary. Its effect, in most instances, is an immediate diminution of the discharge, and a mitigation of the local uneasiness.

There are four medicines from which I have seen benefit derived.*

1. Balsam of copaiba, given in increasing doses, commencing with fifteen drops three times a-day; or, if the stomach be delicate, it may be made up into pills.

2. Preparations of iron, and especially the sulphate, and the tinct. ferri muriat. The mode in which I have exhibited it is in combination with blue pill, and the compound rhubarb pill. It improves the condition of the digestive system, and appears to exert a decided influence over the leucorrhœa.

3. Decoction of logwood. In two or three cases in which I made trial of this medicine, it seemed to be very useful: the discharge diminished, and the patients were ultimately cured.

4. Ergot of rye. This remedy has been highly recommended by MM. Roche, Dufrenois, Bocquet, Negri, Ryan, &c.; and, in some very obstinate cases in which I prescribed it, it succeeded after the failure of other medicines.† I give it in doses of five grains three or four times a-day.

These are the remedies which I have found the most efficacious, but their effect is greatly increased by the previous application of the blister.

Dr. Huston is inclined to think favorably of M. Vidal's recommendation, to throw a solution of nitrate of silver into the uterus, in obstinate cases. It no doubt may easily be done, but the consequences

* The substance of this chapter was published in the Edinburgh Journal, No. 121, and since that, I have received several gratifying communications from professional gentlemen in this country and in England, as to the success of the plan of treatment I ventured to recommend. They have all especially instanced its efficacy in cases where injections had failed. I can truly add, that my own confidence in it keeps pace with my increased experience.

† Lisfranc. Mal. de l'Uterus, p. 379. *Note* by M. Pauly.

seem, as yet, very doubtful; in some cases it succeeds without distress, in others the pain is very severe, and in others it has proved fatal.

There are other medicinal substances which have their advocates; powdered colchicum root was recommended in a recent number of the American Journal of the Medical Sciences, but it failed in my hands.

It is said to have been successfully treated by cortex simarouba,* cubebs,† crab's eyes,‡ tinct. cantharidis,§ and the root of the elder tree.‖

Iodine has been highly praised for its effects in leucorrhœa. MM. Brera, Gimelle, Sablairolles, and Muller are said to have used it successfully in old and obstinate cases.¶ Gimelle gives an ounce of the syrup of iodine, evening and morning, in some appropriate infusion.**

Benefit will probably be obtained from the chalybeate waters.

When the disease is on the decline, I have seen much comfort derived from sponging the back, loins, and lower part of the abdomen with tepid or cold salt water. The state of the stomach and bowels should be carefully attended to. Should constipation occur, a combination of blue pill with rhubarb, or of aloes with assafœtida, followed by a moderate dose of castor oil, will be advisable. Emollient enemata are also very useful.

Conium, hyoscyamus, or opium may be given, if there be much local or general irritation. Cleanliness is of the utmost importance; the external parts should be washed with tepid water, or milk and water, two or three times a-day, and carefully dried afterwards. If there be any excoriation, the use of a lotion containing sugar of lead, or black wash, will probably remove it.

The patient should be comfortably, yet not too warmly clothed, especially about the loins and hips. Air and exercise are of the greatest service, when so taken as not to add to the uterine irritation; this caution is peculiarly necessary when the patient is recovering.

Sea-bathing at the proper season may be allowed, after the discharge has entirely ceased.

It is scarcely necessary to add, that all possible causes must be removed or avoided.

I have rarely found this mode of treatment fail, even after a relapse

* Med. Commentaries, vol. vii. p. 443.
† Edin. Med. and Surg. Journ., vol. xvii. p. 312. vol. xviii. p. 318.
‡ Med. Commentaries, vol. i. p. 325.
§ Edin. Med. and Surg. Journal, vol. vii. p. 176.
‖ Delens. Brit. and For. Med. Rev. April, 1837, p. 508.
¶ Art. Iode, by M. Solon, in Nouv. Dict. de Med. et Chir.
** Cases in Journal Univ. des Sciences Med., tom. 25, p. 5.

(to which patients are very obnoxious.) A steady perseverance in the use of the remedies I have recommended is almost always rewarded by success.

CHAPTER X.

PHYSOMETRA UTERINE TYMPANITES.*

185. This term is applied to an accumulation of gaseous fluid in the uterus, which occurs under very different circumstances. It may be a secretion by the lining membrane of the uterus, especially after certain diseases;† or it may arise from the decomposition of a portion of the placenta, of a clot,‡ or of some of the lochia; and consequently is much more common in women in childbed than at any other time.§

In the majority of cases, the os uteri is completely closed, whether by induration and contraction of the canal of the cervix, or by some temporary obstruction; but in others, the canal of the cervix being pervious, the air escapes sensibly almost as soon as secreted. This circumstance will of course cause a considerable difference in the symptoms. The evidences of accumulation will be altogether absent in the latter case.

It is said that the air may be drawn up into the vagina, in a relaxed state of these parts, by the motions of the muscles in the neighbourhood; and this, I suppose, is what Doctor Hamilton means by attributing it to a "relaxation of these parts."‖ Astruc says that, when the uterus does not contract, air will fill the void; and if the os uteri at the same time be closed, physometra will result.¶

It has been known to occur during gestation, after the death of the fœtus, or it may occupy the place of the false waters (that is, between the chorion and amnion,) the fœtus being alive. Baudelocque saw a case where the gaseous exhalation took place after death, and was sufficient to expel the fœtus.‡

* Astruc. Diseases of Females, vol. ii. p. 187. Baillie's Morbid Anatomy, p. 394. Capuron. Mal. des Femmes, p. 188. Nauche. Mal. propres aux Femmes, vol. i. p. 150. Boivin and Dugès. Diseases of the Uterus, &c. p. 134.

† Burns' Midwifery, p. 186, last edit.

‡ Dugès. Dict. de Med. and de Chirur. prat. art. Physomètre.

§ Macintosh. Practice of Physic, vol. ii. p. 411.

‖ On Female Complaints, p. 19.

¶ On Diseases of Women, vol. ii. p. 188.

** Dict de Medicine, art. Pneumatose, p. 198. 1827.

All persons engaged in the practice of midwifery must have observed the escape of gas, often fœtid, from the vagina, during an operation. This must have accumulated in the uterus, as in many such cases the pelvis is filled by the child's head.

In the idiopathic physometra, the gas is inodorous, but not so when the result of decomposition: in the former case, nothing but air is contained in the womb; in the latter, especially when the source is the ichorous discharge from a cancerous ulcer, there is fluid also contained in it.

It must not be forgotten that there may be explosions of wind from the vagina, without accumulation in the uterus;* and Hamilton conceives that this may occasionally be owing to a communication between the vagina and rectum.

186. *Pathology.*—†It is very difficult to speak decisively upon this point, as to those cases where the disease is idiopathic, because of the scantiness of the information derived from *post-mortem* examinations.‡ That mucous membranes, in an unhealthy state, do secrete gas, we have abundant proof, but whether as the result of chronic inflammation or as a mere functional disturbance, may perhaps be doubtful; on the whole, I am inclined to believe that the lining membrane of the womb is in a state of subacute or chronic inflammation.§ To this must be added the important fact of the obstruction (temporary

* Denman's Midwifery, p. 72, last edit.

† Mr. John Hunter endeavoured to elucidate this subject by minute enquiry, but failed. In one case, where he made a *post-mortem* examination, he found no disease in either uterus or vagina.—Work on the Animal Œconomy, p. 206.

Dr. Hooper saw a case in the living subject, but never post-mortem.

Dr. Gooch states his experience thus:—"Air is formed in this organ (the uterus), but instead of being retained so as to distend it, it is expelled with a noise many times a-day. It has been doubted whether it really came from the uterus, but in one of my patients there was a circumstance conclusive on this point; she was subject to this infirmity only when not pregnant; but she was a healthy and breeding woman, and the instant she became pregnant her troublesome malady ceased. She continued entirely free from it during the whole of her pregnancy, but a few weeks after her delivery it returned."—*Diseases of Women*, p. 241.

‡ Peter Frank mentions a case in which, after death, the uterus was found enlarged, hard, and elastic, filled with gas of a very fœtid odour. Its interior was ulcerated, and its orifice hard and corroded internally. In another case, the orifice was closed by a polypus growth.—Vol. iv. p. 50, of the French trans.

§ See Cyclopedia of Practical Medicine, art. Pathology of the Uterus, vol. iv. p. 363.

or permanent) of the canal of the cervix. This may be caused by viscid secretion, by false membrane, or by that process of gradual obliteration by the increasing density of the structure of this part in advanced age, to which I have before referred.

As to that variety when the gas is merely accumulated in the uterus from an obstacle to its exit, the origin of the gas is easily explained, by supposing a decomposition of such portions of placenta, clots of blood, or cancerous ichor, as may be contained in the womb. The change is simply chemical, and does not necessarily involve disordered action on the part of the uterine membrane. This explanation applies also to those cases when the gas escapes during an obstetric operation; there is no reason to suppose it to have been produced before the commencement of labor, unless the child have died previously. As to its occurrence between the amnion and chorion, it may arise from the decomposition of the jelly-like fluid ordinarily found there.

187. *Symptoms.*—The three most prominent symptoms are precisely those which are so well-marked in pregnancy. The menses (according to the almost universal testimony of authors) are suppressed, the abdomen enlarges, and milk is secreted.

The amount of accumulation, according to Astruc and others, seldom appears to be very great, and the bulk of the uterus not greater than in the fourth or sixth month of gestation; but Peter Frank quotes the case of the wife of a German physician, in whom it extended from the pubes to the diaphragm.* Before it can enlarge much, something generally causes its expulsion. Blows, falls, bending forward, forcing at stool, sneezing, coughing, or vomiting, &c. may effect this, and give rise to a loud explosion, followed by a discharge of fluid. When this occurs frequently, as it is entirely involuntary, it puts the patient "*hors de société*."

The breasts increase in bulk, not merely by addition of fat, but by the enlargement of the mammary gland, and a thin fluid is sometimes secreted, such as we find before delivery.

In most cases, there is neither pain or uneasiness, except what may arise from the bulk; nor does the patient complain of either weight or heat; but in others, the distress is considerable; there is heat and stinging pain in the tumor, extending to the groins, thighs, and vulva; and in the case of the German lady I have alluded to, it was so great that she was unable to move a limb.* The pressure of the distended uterus upon the neighbouring viscera may interfere with the due performance of their functions; the appetite becoming delicate, and the bowels constipated. Conception, of course, is prevented for the time

* Op. Citat. vol. iv. p. 49.

† See also Carus' Gynæcologie, vol. i. p. 308.

being; but in two Paduan ladies, quoted by P. Frank, it occurred immediately on the expulsion of the gas. If the disease be often reproduced, there is danger of its giving rise to ascites.

The abdominal tumor is elastic, and, when percussed, yields a clear loud sound. A vaginal examination will show the os uteri higher than usual, and the cervix diminished in length.

When the cervix uteri is pervious, the general symptoms only will be present, with occasional explosions of air.

It need scarcely be said, that when physometra proceeds from derangement of the mucous membrane, it is much more tedious than in cases of accumulation merely.

188. *Diagnosis.*—1. It may readily be mistaken for *pregnancy*, but it is distinguished from it by the resonance of the tumor, by the absence of ballottement, fœtal movement, and the signs afforded by auscultation, and by the occasional pain.

2. From *hydrometra*, by the greater elasticity of the abdominal tumor, and by its resonance.

3. From *ascites*, by the defined shape of the tumor, by its resonance, and by the absence of fluctuation.

4. From *scirrhous* or *steatomatous* depositions, by the elasticity and resonance of the tumor.

Additional light will often be thrown upon the question by the occurrence, previously, of explosions of air from the vagina.

189 *Treatment.*—The *first indication* is to empty the uterus of the air, and the *second* to prevent its subsequent secretion or accumulation.

Astruc, and the older writers, advise our exciting vomiting or sneezing, or setting the patient to jump about, having previously employed warm baths; and if this do not succeed, we are to move about the cervix uteri with the finger. It may be all very well to try these methods, as they do no harm, but in most cases we shall ultimately be driven to the only plan upon which reliance can be placed, and that is, the introduction of a canula through the os uteri and canal of the cervix, into the uterine cavity. The air will escape through the canula (the size of which must be suited to the canal), which is to be kept *in situ* till the uterus is quite empty.

Great care and gentleness are necessary, and it will require rest and good management for a few days afterwards, to avoid inflammation.

But though the first indication be thus fulfilled, this is a small part of the cure, as the gas would shortly be secreted again.

Injections of warm water into the womb itself should be used once or twice a-day, for some time after the operation; and if the disease result from decomposition of offensive matter, it will by this means be removed.

In more obstinate cases we are advised to inject weak solutions of chlorine, or astringent lotions, or mineral waters. Denman recom-

mends the Bath waters. Warm baths and '*douches*' have been found useful.

I should expect a good deal of benefit from vaginal or uterine injections of nitrate of silver; its antiseptic properties are as marked as its powers of changing the morbid action going on in mucous membranes.

It may be necessary to give tonic medicines internally, where the constitution has suffered; and benefit may be in some cases also derived from mild alteratives, such as Plummer's pill.

CHAPTER XI.

HYDROMETRA. UTERINE DROPSY*

190. This disease consists essentially in the excessive secretion of fluid, and its accumulation in the uterus, in consequence of the obliteration of the canal through the cervix, or the closure of the os uteri.

It may be considered as *idiopathic*, when the fluid is secreted by the mucous membrane lining the cavity; and *symptomatic*, when it is the discharge from an ulcer, retained in the uterus, owing to the closure of the ordinary outlet.

It has also assumed a periodic character.†

It occurs principally in married women not advanced in years, and, judging from this circumstance, Dugès‡ supposes that it may have

* Baillie's Morbid Anatomy, p. 393. Capuron. Mal. des Femmes, p. 167. Boivin and Dugès. Diseases of the Uterus, &c. p. 136. Siebold. Frauenzimmerkrankheiten, vol. i. p. 531.

† Bull. gen. de Therapeutique, May, 1838.

‡ Dict. de Med. and de Chir. prat. art, Hydrometre.

Frank describes four species of hydrometra. 1. The cellular, when the effusion is immediately underneath the serous membrane of the uterus. 2. The independent, the fluid being in the uterine cavity. 3. The hydatic. 4. Hydro-physometra, where both fluid and air are contained in the womb.

Carus adopts the same division, and enumerates the following symptoms as characteristic:—1. Interruption of digestion through loss of appetite or disgust of food; vomiting, costiveness, flatulence and pain in the lower belly. 2. Weight and pressure in the pelvis. 3. Gradual diminution of the urine. 4. Prolapse of the vagina, or even of the uterus, as the consequence of atony of the sexual system. 5. Œdema of the external parts of generation and of the lower extremities. 6. Slow fever.—*Gynæcologie*, vol i. p. 303.

some connexion with the function of generation. Dr. Grandidier, however, has recently related a case which occurred in a female aged 21, and unmarried. By the aid of ergot of rye, a large quantity of clear water was expelled, and the patient recovered:* it also occurs during pregnancy.† The fluid contained in the uterus varies very much in quality. At an early period of the disease in the *idiopathic* variety, it is most frequently serous, albuminous, or mucous; as the disease advances, however, if the deeper uterine tissues become involved, it changes to a thick, offensive, dark-colored matter.

In *symptomatic* hydrometra, the fluid is generally mixed with puriform matter or blood. In one case, when death was caused by gangrene of the intestine, the os uteri was obliterated, and the uterus resembled a pouch filled with a greenish liquid pus, "evidently the result of chronic metritis." (*Dugès*). In another, the womb was distended with a colorless aqueous fluid containing albumen, and which had been discharged from a cancerous ulceration of the cervix.

The quantity of the contained fluid differs much; in many instances it never amounts to more than one or two pints, further distension forcing a passage for the fluid; in others, the uterus is as large as at the termination of pregnancy. Blankard says that it contained 85lb of an ichorous and oily fluid in one case. Vesalius relates another, where 180lb were found. Bonetus goes still farther, and mentions an instance of distension to such an amount, that the uterus was capable of containing a child of six years old!

191. *Pathology.*—The results of *post-mortem* examinations are very different: in Dr. Thompson's case,† the uterus and its lining membrane

* Ranking's Abstract, vol. ix. p. 187.

† There are two very interesting cases, which I may be allowed to quote; the first is related by Dr. T. A. Thompson, in the Medico-Chir. Trans. Vol. XIII. Part I. p. 170, and the second by J. M. Coley, Esq. Bridgenorth, will be found in the Transactions of the Provincial Association. Dr. Thompson's case is as follows:—

"Mary Rae, æt. 65, mother of several children, was admitted into the infirmary in December, 1823; she appeared somewhat emaciated, and complained of uneasiness and pain, connected with a tumor in the abdomen, which she first perceived about six weeks prior to her admission into the infirmary in April, although from a sense of delicacy she had not mentioned it at the time. It was situated at the lower part of the abdominal cavity, rising, as it were, out of the pelvis, and occupying the iliac, hypogastric, and umbilical regions. She appeared as large as if six months gone with child. An indistinct fluctuation was perceptible in the tumor, and the least pressure on it excited pain. It was suspected to be a diseased ovarium, but no examination was made *per vaginam*; nor could it be ascertained, from the account the patient gave of its origin, whether it had first appeared on either side

were perfectly healthy: in Mr. Coley's case, there was found the greatest degree of disorganization; both the mucous membrane and the proper tissue being in many places destroyed by '*ramollissement*.'*

of the abdomen. The accompanying symptoms, however, denoted a greater derangement of the system than usually attends dropsy of the ovarium. These were want of appetite, considerable nausea, furred tongue, pulse quick and feeble, the bowels irregular, and the urine scanty and high-colored. (In the beginning of March, 1824, she died, after amputation of the leg, which operation had been performed in consequence of a dry gangrene which had attacked the limb.)

"*Dissection.*—The first object which presented itself, on the abdominal parietes being divided and turned aside, was a body closely resembling the gravid uterus, occupying the whole of the pelvic cavity, and the greater part of the abdominal. Upon its anterior surface, and firmly adhering to it, was the urinary bladder, containing a small quantity of dark-colored urine. On laying the flaps of the abdominal parietes together, the stretched bladder was found to extend to within an inch of the umbilicus; so that it must have been perforated if the trocar had been used to evacuate the fluid during the life of the patient, under the supposition that the disease was ovarian dropsy. The tumor was immediately ascertained to be the uterus greatly enlarged, and filled with fluid; it was partially sphacelated on its peritoneal covering, at the upper portion of the fundus. With regard to the other viscera, the liver was much diminished in size, and adhered to the diaphragm throughout; the gall-bladder was large and turgid, with deep-colored bile; the stomach, colon, and other intestines, with the omentum, were glued together in many places, and sometimes were evidently in a state of sphacelation. This gangrenous appearance extended to the peritoneum in the hypochondriac region.

"On removing the diseased uterus from the body, and making an incision into it, the quantity of fluid which it contained was found to measure eight quarts; it was of a dark brown color, and coagulated slightly when heated in a spoon over the flame of a candle. The existence of a large hydatid within the cyst was expected, but this opinion was incorrect, the sac being merely the uterus, in the cavity of which the fluid was contained. The internal surface of the organ was not more irregular nor more spongy than in its natural state; but none of the orifices could be found, for even the os uteri was, interiorly, as completely obliterated as if it had never existed; and although its situation could be traced in the vagina, yet even there it was very faintly marked. The ovaries was small and flaccid, but otherwise natural."

* Mr. Coley's case I copy from a review of the Provincial Trans. in the Medico-Chirurgical Review for October, 1836.

"May 12, 1834. A female, æt. 36, mother of two children, the

Dugès mentions, that the walls of the uterus are often the seat of schirrhosities, ulcers, and hydatiform or polypous tumors. Evidences also of chronic metritis have been found.

We observe that these circumstances, except the softening of the uterine tissues, have one tendency, at least, in common, viz. to increase the secretions from the mucous membrane, whether its normal character be preserved or changed. And this appears to be the primary pathological condition for the production of idiopathic hydrometra.

The second condition is the impermeability of the passage from the womb, which may be owing to a morbid growth blocking up the inner

youngest nine years old; had been confined to bed for four months with a tumor in the region of the uterus, attended with obstinate constipation, hectic fever, and extreme emaciation. On examination, Mr. Coley found a painful irregular tumor on the hypogastrium, resembling that produced in the uterus in the sixth month of pregnancy, exceedingly tender to the touch, hard and prominent on the left, and comparatively flattened and elastic on the right side of the abdomen. The pain she felt was of a shooting kind, constant, and varying in degree of intensity. The os uteri was sound, and a little dilated. The cervix was closed, and three-fourths of an inch long. The adjoining parts of the distended uterus, within reach of the finger, were of a stony hardness, unequal on the surface, and exquisitely tender, especially in the left side.

"The vagina also was particularly tender, and, during the last four months, afforded at intervals a dark-colored, offensive, thick discharge, with portions of a membranous substance. Menstruation had ceased, and the breasts were enlarged and firm. From her own account, it appeared that a year and a half previously, gradual enlargement of the abdomen commenced, with suppression of the menses; that she then believed herself to be pregnant; and that at the end of seven or eight months from the commencement of this state, a sudden discharge of offensive fluid, with portions of a membranous substance, proceeded from and completely reduced the volume of the uterus. In March, Mr. Coley saw her again, and could discover no fluctuation in the uterus, from the vagina. At the latter end of March there was a slight hæmorrhage from the vagina, preceded by the detachment of a thick piece of abnormal membrane. About the middle of May, peritonitis occurred; this was followed by purpura, and on the 15th she died.

"*Dissection. May 17th.*—Extreme emaciation. Thickening of the serous membranes, and adhesion of the omentum and abdominal peritoneum to the serous coat of the uterus, especially at that part which, during life, felt so hard and irregular. Evidence of surrounding peritonitis.

orifice,* to obliteration of the canal, or to a membrane covering the os uteri externum.

Dr. Burns† differs from this view, and considers the disease as one large hydatid filling the uterine cavity. That this may be the case sometimes, we have the testimony of Denman, who saw a bag of the shape of the uterus, which had been expelled from the organ after the discharge of the fluid. The same author mentions certain temporary collections of fluid which occur after child-birth, and which are evacuated before they cause much distension.

With regard to *symptomatic* hydrometra, the pathological condition giving rise to the fluid is generally sufficiently obvious, the immediate cause of the accumulation being the temporary or permanent impermeability of the cervix uteri. There is a variety of hydrometra which sometimes comes under our notice, in which the phenomena are less prominent, but of which the termination may be equally fatal; I allude to those cases which, in consequence of the condensation of the tissue

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"The fibrous portion or body of the uterus was so disorganized, that it was not thicker than an ox's bladder, and in some places it was altogether destroyed by an ulcerative process, which had commenced in the mucous membrane. On slight pressure being applied, the peritoneal coat at one spot, being free on both surfaces, gave way, and a thin, dark-colored, offensive fluid, resembling that which proceeds from an ulcerated intestine, and containing portions of coagulable lymph, to the amount of three pints, escaped. The fibrous coat was quite destroyed at other parts, as well as the spot where the rupture took place; and the uterus, on being divided, collapsed like wash-leather, being generally reduced in thickness to the eighth of an inch, and having entirely lost its firmness and elasticity. In short, the principal support and figure of the organ were dependent on its indurated peritoneal coat, except at the inferior part, near the cervix.

"The whole of the internal or mucous surface of the uterus was found in a state of '*ramollissement*,' or of that species of ulceration observed in the mucous coats of the intestines, in certain fatal diseases of these parts.

"The cervix was obliterated, with the gelatinous secretion peculiar to the state of utero-gestation; and the walls of the uterus, adjacent to that part, were enlarged, and consolidated with a tuberculous mass, the principal portion of which was deposited in that part which rested against the rectum, and obstructed its passage. This morbid production consisted of a uniform white structure, and was free from those radiating bands, that grisly feel, and irregular surface, discoverable in scirrhous indurations."

* Macintosh. Practice of Physic, vol. ii. p. 411.

† Midwifery, eighth edition, p. 125.

of the cervix uteri in advanced life, the canal is obliterated, and an accumulation of the normal secretion takes place. No morbid action is discernible until a process of thinning of the parietes at some one part (like the *pointing* of an abscess) commences, which terminates in rupture.

192. *Causes.*—Very often it is impossible to discern any direct cause; in some cases a blow on the abdomen may have excited irritation in the uterus.* Some authors have attributed it to a debility of constitution, and others to a universal serous diathesis.

193. *Symptoms.*—The accumulation takes place very gradually, so that the uterus is able to accommodate itself to the new circumstances in which it is placed, without the development of any remarkable symptoms. This is especially the case when it occurs in women who have had many children, or shortly after delivery. When the womb is not dilatable, as in elderly females, the symptoms of over-distension are the sooner evident.

In some cases of *idiopathic*, and in almost all *symptomatic* hydrometra, it would appear possible to detect the presence of the pathological cause of the increased secretion.

After the disease has existed for some time, a tumor of the size and shape of the enlarged uterus may be perceived at the lower part of the abdomen: it feels elastic, is moveable, and yields a dull sound on percussion, with a sense of fluctuation.

As the accumulation increases, there is a degree of tenderness on pressure, and occasional dull pain and uneasiness in the tumor. Certain mechanical inconveniences result also; the patient finds it difficult to stoop forward, and a degree of dyspnœa is present.

The menses are almost always suppressed, although Monro, in his work on dropsy, says that there are exceptions. Leucorrhœa (vaginal, of course) is sometimes present.

The urine is generally small in quantity, depositing a brick-dust sediment.

Sympathetic irritation of the breasts is often excited; they enlarge, and feel knotty and glandular. Nauche saw the ordinary milk fever succeed to an evacuation of the fluid of hydrometra.

At first, there appears to be but little constitutional suffering; but in the more advanced stages, the contrary is observed. The pulse becomes small and quick, the skin dry and hot, the tongue furred, the appetite bad, and the bowels irregular.

The finger introduced into the vagina will be able to detect the tumor, and identify it with that in the abdomen; it will also recognize the diminution of the neck; but there is no evidence that the uterus contains a solid body in addition to the fluid.

The patient may die from exhaustion, in consequence of the secondary

* Frank. Traité de Med. prat. traduit du Latin, iv. p. 182.

fever; or the womb, unable to dilate more, or weakened in some part by previous or present disease, may give way, and the contents escaping into the peritoneal cavity, fatal peritonitis may result immediately. This is the usual consequence of obliteration of the canal of the cervix in old women.

194. *Diagnosis.*—1. From the abdominal enlargement coincident with the suppression of the menses, and the sympathetic irritation of the breasts, the disease may be easily mistaken for *pregnancy;* but the absence of fœtal movement (quickening), of stethoscopic phenomena, and of "*ballottement*," will often enable us to distinguish them; and the presence, in hydrometra, of the constitutional symptoms I have enumerated, will further aid us. Nauche adds, that the distension is more uniform, and that the uterus is rounder and softer than in pregnancy.

2. The dull sound on percussion, the fluctuation, and the greater gravity of the symptoms, will distinguish it from *physometra.*

3. *From ascites and ovarian disease,* the distinction will be founded mainly on the limited form of the tumor; its being unaffected by position; its identity with the uterus, established by vaginal examination, and the minor degree of fluctuation.

4. From *scirrhous* '*engorgement*' of the uterus, by the fluctuation and softness of the tumor, and the absence of the nodulated surface of scirrhus.

195. *Prognosis.*—From the gradual progress of the disease, the uterus becomes accustomed to the presence of the fluid, and the distress is so far lessened.

If the occlusion of the passage from the uterus be incomplete, so as to permit the occasional escape of the fluid, there is but little danger. There is a case related by Fernel, where the fluid was discharged monthly; and one by Richard Browne, (quoted by Dugès) in which pregnancy occurred twice, with alternate accumulation and expulsion of fluid from the uterus, without any effect upon the progress of gestation.

But when the os uteri is completely closed, the prognosis is very serious; for if the accumulation continue to increase, rupture of the uterus, and death, will ultimately occur, unless relief be afforded by art.

196. *Treatment.*—The *first indication* is clearly to evacuate the contents of the uterus. If this can be done by any sudden shock, as coughing, sneezing, vomiting, so much the better; but if not, a canula must be passed (if possible) into the cavity, and maintained there until the uterus be emptied.*

Should the neck be impervious, there can be but little doubt as to the propriety of puncturing it with a trocar, or an instrument like the

* Lond. Med. and Surg. Journal, Dec. 2, 1837.

one used by Mr. Stafford for perforating stricture of the male urethra. This operation is certainly not without danger, as metritis may result; but the situation and prospects of the patient fully authorise our running some risk.

Puncture of the uterus above the pubis has been recommended, and Wirer thus extracted 32lb of thick fluid from a female, æt. 53, who recovered perfectly. Nevertheless, it is a much more hazardous operation than the one previously mentioned.

Dr. Fantonetti has succeeded in emptying the uterus by means of the ergot.*

After the complete evacuation of the uterus, our next object will be to arrest the extraordinary secretion from the mucous membrane, or at least to prevent the re-accumulation of the fluid, no matter how produced or whence derived.

Astruc recommends, for this purpose, diuretics and purgatives, and we may add alteratives. Counter-irritation to the sacrum will probably be found useful. Uterine injections of mineral waters, or of astringents are said to be of great use.

The general health must not be neglected. Air and exercise, when obtained without fatigue, will on this account be of great service.

Little can be done, in cases of cancerous disease, towards remedying the primary affection; but the os uteri can be kept pervious by the occasional passing of the canula, and so the distress from over-distension be avoided.

It must be confessed, that many of the cases of recovery on record were but little indebted to medical treatment—the disease either subsided spontaneously and gradually, or was relieved by conception and utero-gestation.

CHAPTER XII.

MOLES, HYDATIDS,† ETC.

197. The term *mole* has been rather vaguely applied to almost every shapeless mass which issued from the uterus, whether this proved to be coagulated blood, detached tumors, or a blighted conception.

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* Lond. Med. and Surg. Journal, Dec. 2. 1837.

† Ruysch's Observations in Surgery and Midwifery (1751), pp. 66, 73, 83, 141. Manning on Female Diseases (1775), p. 357. Consult also, Lamzweerde Historia naturalis molarum uteri, 1686. Sandifort. Obs. Path. Anat. lib. ii. p. 78. Haller. Disput. Med. tom. iv. pp.

So long as this term is made to include productions so very dissimilar, all our views must be indefinite; the recent French writers have therefore rejected all such matters as those I have noted, and have given the term a more limited and intelligible signification.

With them I shall divide moles into three species. 1. Blighted conceptions. 2. Fleshy moles. 3. Hydatids.

198. 1. *Blighted or false conception*, as it is commonly called, is not intended (as has been supposed) to signify any imperfection in the act of generation, but merely that the vitality of the fœtus having been destroyed, the object of utero-gestation has failed.

In most of these blighted ova, the fœtus is altogether wanting, having been dissolved in the liquor amnii; we may, however, generally discern the remains of the umbilical cord attached to some part of the inner surface. In addition, the membranes (chorion and amnion) may be traced, with the placental development on some portion of the periphery of the ovum.

Still the whole mass will be found a good deal changed in size, form, and structure, by the effusion of blood, and the formation of coagula between the membranes, or in the placenta, by deposition of lymph, and sometimes by apparently quite new and perfect layers of membrane.*

It is these very changes which probably caused the death of the fœtus. We can easily comprehend how very frail the tenure of life must be at an early period—we see it broken by mental or bodily shocks; by vascular or nervous irregularity; and by any deviation from normal structure, such, for instance, as a tumor at the root of the cord, or the cord being inserted where the floculi of the chorion are deficient, or into a part where the placenta is *not*.

In this state it is seldom retained for more than two or three months, but, if not expelled, it degenerates into the fleshy mole.†

It is not always easy to distinguish a blighted ovum which has been

715, 745. La Motte, Traitè des Accouchemens, B. 1, ch. 7. Mauriceau. Observ. sur les Accouchemens. Obs. 367. Vigarous, tom. i. p. 115. Nauche. Mal. Prop. aux Femmes, vol. i. p. 183. Capuron. Mal. des Femmes, p. 268. London Med. and Phys. Journal, vol. ii. p. 122. Joerg. Krankheiten des Weibes, p. 562. Siebold's Frauenzimmerkrankheiten, vol. ii. p. 380. Clarke. Diseases of Females, vol. ii. p. 116. Baillie's Morbid Anatomy, p. 393. Blundell. Diseases of Women, p. 197. Simpson on Diseases of the Placenta. Ed. Med. and Surg. Jour., vol. 50. Boivin and Duges. Diseases of the Uterus, &c. p. 152.

* See Dr. Granville's plates in his "Illustrations of Abortion."

† Boivin and Dugès. Diseases of the Uterus, p. 152. Brit. and For. Med. Rev. Oct. 1839, p. 567.

retained in the womb, from a recent abortion, as in the latter the fœtus may be wanting.

199. II. *The fleshy mole* is, in all probability, a transformation of the former species; it has become of a denser texture and more shapeless; the coagula or depositions appear to have been gradually organised.

These moles may present themselves in the form of solid masses, or they may contain a central cavity possessing a distinct lining membrane, and in which there yet remains some of the liquor amnii. The obliteration of this cavity is said to be owing to the absorption of the fluid, or to its escape through some rent in the membrane.* The solid moles are generally much larger than the hollow ones, and of a more irregular form. Externally they are rugged, compact, and lobulated, of a circular or oval figure, and occasionally covered by a thin layer of calcareous matter.† The larger ones are about the size of the two fists. If the texture be examined a little more closely, it will be found solid, but not very dense, spongy like the placenta, but more filamentous in some parts; in others consisting of fibrinous clots, and also portions of the fœtus, such as one or other extremity. The limbs of two fœtuses have occasionally, though very rarely, been discovered.

There is generally but one mole. If the conception have been double, and one ovum have perished, we ordinarily find the other preserved and healthy; although there are instances of two ovum moles at the same time in the uterus.‡

Manning considers them more common at the decline of life, but this is contrary to the experience of all other writers. They require to be carefully distinguished from coagula and detached polypi, and this may be done by making an incision, and ascertaining the structure of each.§

There is a variety of the fleshy mole which is worthy of distinct notice. It is figured in Denman's plates, in Granville's illustrations of abortion, and there is a specimen in the museum of the College of Surgeons in this city, and another in Dr. Montgomery's museum. The texture of the ovum is much more dense than natural, especially the placental portion, which has very much lost its spongy feel; the membranes are unaltered, and when opened, the inner surface of the placental portion consists of tuberculated projections of different sizes, from a pea to a walnut. Into one of these tubercles the cord is inserted, and the fœtus in consequence has perished. The lining membrane appears quite healthy. From the slight change this ovum has undergone, we might hesitate in calling it a mole, were it not

* Murat. Dict. des Sciences Med., art. *Mole.*
† Dugès. Dict. de Med. and de Chir. prat., art. *Grossesse.*
‡ Blundell. Diseases of Women, p. 198.
§ Denman. Midwifery, p. 73.

pretty evident that it has been retained in the uterus for some time after the death of the fœtus. The development of the fœtus is inferior to the volume of the ovum generally.

200. III. *The vesicular mole or hydatids.* The development of these hydatids may be traced very accurately. We find them in small numbers on the outside of the ovum, as yet unchanged in form;* we may see them gradually encroaching until they obliterate the figure altogether; and they may be observed growing from the placenta, or a portion of it.

This view will explain the division made by Boivin and Dugès† into—

1. The vesicular mole, containing the embryo.‡
2. The hollow vesicular mole, the fœtus being anencephalous, or altogether shapeless. And
3. The clustered vesicular mole, where the hydatids are attached to a central part of more solid matter, as grapes are to the stalk.

The quantity of hydatids contained in the uterus varies very much, reaching sometimes to a considerable amount. When the quantity is not very great, they float in a fluid contained in the uterus; and when they form upon an ovum, the whole is enclosed in the membrana decidua.

The individual hydatids vary in size from a pin's head to a grape, and in shape too, being sometimes elongated or round, but more frequently oval. According to Naegele,§ they each possess three coats: the external, serous, thin, and transparent; the middle, fibrous; and the internal mucous. Both white and red vessels may be seen running on their surface.

They contain a fluid which, in the smaller ones, is transparent, and in the large, of a straw-color; I have seen it of a beautiful pink. It is less dense than distilled water; does not turn vegetable blues red; but turns syrup of violets, green; it is coagulable neither by heat nor acids. It is aqueous or gelatinous, but never albuminous.

Formerly these hydatids were believed to have an independent existence, and were ranged amongst the acephalocysts. Pallas, Linnæus, and Percy call them Tenia hydatigena. This supposition is abandoned by all recent writers.

They are known to have remained in utero longer than the other

* Burn's Midwifery, p. 123. Ed. Med. and Surg. Journ., vol. v. p. 257.

† Diseases of the Uterus, p. 158, et seq.

‡ Dubreuil. Revue Med., Novembre 1836. Wrisberg Nov. Comment. Gotting., tom. iv. p. 73. Leray. Nouv. Journal de Medicine, Mai 1822.

§ Mal. propres aux Femmes, vol. i. p. 182.

kinds of moles. Dugès relates a case where 15 lb. weight of hydatids were discharged, which had been five or six years accumulating.

There is more danger at the time of their expulsion,* than with the other species; for, as they may be discharged by instalments, the portion that remains in the uterus often keeps up the flooding which accompanies the evacuation.

201. *Pathology.*—The first question with regard to these morbid growths is not merely interesting as a pathological fact, but highly important as a point in legal medicine, viz. Are they the results of conception, and consequently of sexual intercourse? With regard to many of the substances formerly included under this head, there was abundant ground for a negative answer; but, with respect to those I have described, I have rarely met with a dissentient voice amongst authors. Lamzweerde asserts that they cannot be produced "sine copula maris." Ruysch speaks of moles discharged from maids and old women who "have never used men;" but such were evident fibrinous clots, and of "pseudo-molæ," growing from the placenta, and, of course, subsequent to impregnation. Manning says they may be the result of abortion or of degenerated ova, but he likewise includes coagula amongst moles. Puzos speaks of them as degenerated conceptions. Denman and Burns regard the fleshy moles (excluding coagula and polypi) as most probably the result of conception, and neither hesitates a moment in attributing hydatids to this cause. Nauche denies their independent vitality, and though he generally believes them to be caused by impregnation, yet (because of the story of the 'Chanoinesse,' &c. vol. i. p. 191,) he hesitates in assigning this as the sole cause. Capuron terms a mole, 'conception dégénéré.' Mad. Boivin† states that they are degenerated ova, and always the consequence of impregnation. Dugès‡ agrees entirely with Mad. Boivin. Sir C. M. Clarke thinks that hydatids may be found without previous sexual intercourse, and Gardien takes the same view. Dr. Evory Kennedy says that "hydatids may occur in virgins."

Dr. Montgomery§ excludes polypi and coagula from the list of moles, and the remaining species he conceives to be always the result of impregnation. He says, "my own belief then is, that uterine hydatids do not occur except after sexual intercourse, and as a consequence of impregnation; never having met or heard of a case in which their presence was not accompanied or preceded by the usual symptoms of pregnancy."

* A fatal case is related in the Lancet for Feb. 1, 1840.

† See Essay on the Vesicular Mole, &c., or Edin. Med. and Surg. Journal, vol. xxxiv. p. 382.

‡ Dict. de Med. and de Chir. prat., art. *Grossesse.*

§ Signs of Pregnancy, p. 141.

We may therefore conclude that moles, properly so called, whether blighted conceptions, fleshy moles, or hydatids, are truly consequent upon sexual intercourse and impregnation:* but in the practical application of this judgment to forensic medicine, we must not forget that this does not imply criminality or impropriety in every case; as, for instance, a widow may have conceived during the life-time of her husband, and the death of the embryo not having been followed by the expulsion of the ovum, it may remain in utero until after the death of the husband, and then be discharged, without the slightest suspicion attaching itself to her conduct.

The next question as to the pathology of these moles is, How is their transformation effected?

The answers to this question are not quite satisfactory. With regard to the two first species, in which we meet with coagula of blood from a rupture of some of the vessels of the ovum, and with false membranes and lymph, the result probably of inflammatory action; we can easily suppose these products to undergo a species of organization, assimilating them to the parts with which they are in contact, and adding to the bulk and deformity of the whole: the amount of this change will vary according to the extent of the operation of the cause.

As to vesicular moles, there have been several theories to explain their nature and origin. Some have considered them to be acephalocysts, endowed with a very low degree of vitality, but an independent existence. Others regard them as a peculiar disease of the amnion.

But certainly the most plausible theory is founded on the fact, that

* It may not be uninteresting to transcribe some of the conclusions arrived at by Dr. Lamzweerde, who wrote (in 1686) the "Historia naturalis molarum uteri."

"*Conclusio.* Causa efficiens primaria molarum est virtus seminis masculini; secundario, fœminini; totalis, virtus utriusque sexus seminis unita."—p. 103.

"Vidua non potest concipere molam virtute mariti defuncti relicta in utero, sine novo maris auxilio."—p. 176.

"Virgines non possunt concipere vel generare molam sine copula maris."—p. 171.

"Diabolus vel dæmon incubus non potest, virtute sibi congenita, ex semine præciso in virgine vel vidua succuba, suscitare prolem vel molam!!"—p. 258.

"Mola potest per plures annos sine putredine jus incolatus in utero possidere, imò ad exitum vitæ."—p. 138.

"Molarum cura potius manuali peritarum obstetricum vel chirurgorum operatione aggredienda est, quam pharmacis."—p. 153.

"Animalium brutorum fœmellas aquæ molis esse obnoxias ac mulieres, sed multo rariùs."—p. 260.

if the flocculi of the chorion be examined closely, there will be found minute nodules or swellings upon them. These are observed to enlarge in size, to become transparent, and to contain fluid, under certain circumstances; in short, to form true hydatids.

That all probability is in favor of this view, any one may satisfy himself who will take the trouble to examine minutely the development of the vesicles upon an ovum; he may there trace their gradual increase, from these very nodules up to the fully-formed hydatid.

202. *Symptoms.*—For the first few months, the symptoms exactly resemble those of pregnancy. The menses are suppressed, the abdomen enlarges, the uterine tumor is distinctly felt, the breasts increase, the areolæ darken, and a thin milky or serous fluid is secreted. Salivation also occurs now and then, and morning sickness. But, on the other hand, certain signs are totally wanting. There are no fœtal movements, no pulsation of the fœtal heart, and no '*ballottement.*' I have heard, however, the uterine souffle very distinct, although I cannot say whether it is present in all cases. M. Vannoni believes that he has noticed a double intonation, one rough and the other smooth; in the uterine souffle, and in ordinary pregnancy, the soft sound predominates, but when the child is dead, (or absent, as in moles) he conceives the two are of equal intensity and duration.* Pressure upon the tumor occasionally gives pain, and there is generally a serous or sanguineous discharge from the vagina.† Cases are related by Hildanus and Thuillier, of moles complicating pregnancy, and in such a case the presence of the mole will not be suspected.

Generally speaking, the health of the patient does not suffer much disturbance, nor does the mechanical inconvenience exceed that caused by pregnancy.

At a period which is quite uncertain, the womb makes an effort to expel its contents, and the phenomena of abortion or ordinary labor occur;‡ there is the preliminary mucous discharge from the vagina, and labor pains, with more or less hemorrhage, and after a certain

* Revue Med. Chirurg. Dec. 1848.

† Puzos. Traité d'Accouchemens, p. 211.

‡ A case of this kind lately occurred at the Western Lying-in Hospital. The patient, Ann Curwen, æt. 27, the mother of two children, and generally enjoying good health, menstruated regularly up to the end of Agust, 1836; the menses ceased after that time, from pregnancy, as she believed; about a month afterwards, however, she observed a slight discharge from the vagina, resembling blood and water, which continued three months or more, up to Dec. 18, 1836, when she was attacked with labor-pains and all the signs of abortion, except that instead of an ovum, a large basin-full of hydatids was expelled, with considerable hemorrhage. She recovered perfectly under the ordinary treatment.

time, the mole is expelled. The examination, *per vaginam*, (which ought to be made, at the latest, when the flooding commences,) will give rise to some suspicion, if the supposed pregnancy be far advanced; as instead of the head, breech, or extremity, a soft mass will be felt at the os uteri, which can hardly be mistaken for the membranes.

The *fleshy mole* will not be distinguished from an early abortion, until it be examined minutely. If it be (as it sometimes is) decidedly adherent to the uterus, the case may be more serious, because the flooding will not cease till the uterus be emptied.

In some cases, milk is regularly secreted after the evacuation of the hydatids; in others a smart fever follows, with pain in the hypogastrium, requiring laxatives and fomentations.

The age at which these morbid growths generally occur varies, from the entrance upon the full performance of the sexual functions to the cessation of menstruation. If moles be discharged after that period, we may be assured that they were generated previously.

The phenomena revealed by an internal examination are similar to those in pregnancy, (except the '*ballottement*,') the cervix uteri is diminished in length, and the body is enlarged.

203. *Diagnosis*.—1. I have already stated that this disease simulates *pregnancy* very closely; but there will be found certain discrepancies, such as the duration of the abdominal swelling beyond the term of utero-gestation; the disproportion between the size of the tumor and the period since it was first observed; which, together with the absence of quickening, of the '*ballottement*,' and of the stethoscopic phenomena, will in most cases enable us to decide as to the nature of the enlargement. Other indications have been attempted to be drawn from the state of the abdomen and of the breasts; but according to writers of equal authority, they are of little worth.

There are two observations, however, which may be mentioned. Manning* says that the health of the female is liable to greater disorder than in pregnancy; and Nauche,† that the occasional hemorrhage is an important diagnostic sign.

Sir. C. M. Clarke lays great stress upon the occasional irregular discharge of a colorless, inodorous, aqueous fluid, owing to the bursting of an hydatid.

In some instances, it is not until after delivery that the difference is detected, and this, at all events, will happen where a mole and pregnancy co-exist.

2. It may be distinguished *from physometra*, by the absence of resonance, and by the greater weight of the abdomen.

3. *From hydrometra*. The diagnosis is more difficult; but in hydro-

* Diseases of Women, p. 339.
† Mal. prop. aux. Femmes, vol. i. p. 203.

metra the fluctuation is more perceptible, and the accumulation greater; the symptoms arising from distension are consequently more marked.

204. *Treatment.*—The detection of the disease will only add to our watchfulness; for unless there be flooding, it would be by no means wise to interpose until the uterine effort commence. If there be repeated hemorrhages to any great amount, they may be arrested by plugging the vagina, and applying cloths dipped in cold water to the vulva. Should this be deemed too temporising, the ergot of rye may be given in scruple doses; if it fail, the question of manual interference must be decided by the size of the uterine distension; if that be equal to pregnancy at seven months, the hand may be introduced, and the mole brought away; but if under that size, we run a great risk of doing more mischief by being meddlesome, than would result if the patient were left alone.

If hemorrhage should not occur during the formation of these growths, it probably will, to a considerable extent, when the uterine contractions attempt to expel them, and then the case must be treated as flooding before delivery, viz. the hand must be introduced to detach the fleshy mole, or to scoop out the hydatids.

Subsequently a binder must be applied, and the patient managed as after ordinary labor, but with special reference to the flooding.

CHAPTER XIII.

CONGESTION, INFLAMMATION, EROSION, AND ULCERATION OF THE CERVIX UTERI.

205. We might anticipate that the lower portion of the uterus, the cervix, would be especially liable to irritation and a certain amount of inflammation, on account both of its peculiarity of structure and its situation.

And, accordingly, we find that it is one of the most common, if not the most frequent disease to which women are subject. Many of the cases of leucorrhœa proceed from this cause, rather than from uterine catarrh; and cases of dysmenorrhœa and displacement are traceable to this special cause. Congestion, inflammation, and erosion of the cervix uteri may occur in unmarried women and virgins, as Dr. Bennet has shewn, but much more frequently in married women, whether they conceive or not: indeed it is one cause of sterility, as I have repeatedly found. The disease also occurs in pregnant women, and in elderly females, but certainly not so frequently. The profes-

sion is indebted for much information on this subject to the writings of Drs. Bennett,* and Evory Kennedy,† Mr. Whitehead,‡ MM. Boys de Loury, and Costilhes, &c.

206. *Causes.*—Cold, especially during or shortly after a menstrual period, at which time, as we know, the uterus is unusually congested, is the most frequent cause in unmarried women, and a very frequent one in those who are married; but the latter are exposed to irritation from sexual intercourse, pregnancy, child-bearing, &c. It is stated to be very common among those who indulge in excessive coition, as, for example, in prostitutes.

The use of irritating injections, the introduction of foreign bodies, nay the presence of adventitious growths, as polypi, may give rise to it.

207. *Symptoms.*—In many cases the symptoms are very slight for a considerable time; occasional aching in the back, and some mucous discharge.

In other cases, the pain in the back and region of the ovaries is very severe, accompanied with a sense of dragging, and extending down the thighs, all of which are increased by standing or walking. I have also noticed in several cases, a peculiar pain in three different localities, viz. in the symphysis pubis, at the point of the coccyx, and along the sciatic nerve to the knee, which I should hardly have attributed to the congestion and erosion, had it not been removed by curing the latter. There is a general sense of lassitude and weakness, and occasionally a feeling of weight in the pelvis, and a sense of bearing down.

In almost all cases the patient suffers from leucorrhœa, more or less profuse, especially after a menstrual period. Sometimes the discharge is white like milk, in others thicker and sizy, and in a few I have seen it colored and offensive.

At first the patient's health is scarcely affected, but by degrees the appetite declines, the bowels become irregular, distant and irregular pains are experienced, and the patient gradually falling into delicate health, may, indeed, thus become liable to more serious disease.

The menstrual function seldom remains long intact; sometimes it is more profuse, but in general it diminishes by degrees, often appearing to be supplanted by the leucorrhœa, but in other cases unconnected with any supplementary discharge. The color becomes lighter, the quantity less, and the duration shorter. Now and then I have observed an occasional attack of hemorrhage, or the prolongation of the menstrual discharge from one period to another. Dr. Bennet mentions that the pain of menstruation is increased in these cases, and

* On Inflammation of the Uterus, &c. 2nd. Ed. p. 86.

† Dublin Journal, vol. 3, new series, p. 56.

‡ On Abortion and Sterility.

that it is most severe during the first day or two. "Unlike the ordinary menstrual pain," he observes, "it often persists with great severity during the entire period, and for some time after; occasionally it is most agonizing and continued, so much so as to confine the patient to her bed, and to render sleep impossible for several days and nights. It is then nearly always accompanied by nausea and sickness, and by some degree of general febrile reaction. The pains are of the same nature as those experienced during the menstrual interval, lumbo-sacral, ovarian, and hypogastric. The dorsal, uterine, and ovarian pains are, generally speaking, alike intense. They are constant, but diversified by occasional uterine tormina. The entire lower abdominal region is painful in these extreme cases, and often so sensitive as scarcely to bear the pressure of the bed clothes. Even then, however, the sensibility is greatest in the ovarian regions."* In short, as we have already seen, congestion and ulceration may give rise to dysmenorrhœa.

208. As we might expect, pregnancy rarely takes place, at least in those cases where the menstrual function has been much deranged; or if it do occur, the existence of erosion and ulceration will often occasion abortion.† Sexual desire is enfeebled in most cases, and quite destroyed in many; intercourse being often very painful, and always occasioning increased irritation.

Another most distressing symptom, which occasionally accompanies this disease, is pruritus vulvæ. On an examination, we detect neither inflammation, nor papulæ, nor false membrane of this part, and it requires further investigation before we arrive at the true cause, viz.: inflammation or erosion of the cervix uteri.

When the uterine irritation is great, it is not uncommon to find the rectum and bladder affected, either from reflex irritation, or from an actual extension of inflammation, although the latter I believe to be very rare.

209. The variety of these symptoms and their intensity will be more or less modified according to the local lesion, and the latter we can only ascertain by an internal examination. Some of these lesions may be ascertained incompletely by the finger alone, others only by the speculum, and all much more satisfactorily and perfectly by it.

1. The simplest form, or the first stage of the disease, is *congestion*. To the finger the cervix feels larger than usual, softer, spongy, and slightly depressed, with a degree of tenderness on pressure. By the speculum we may see that it is swollen, of a deeper red color than natural, and often having a bruised appearance. In many cases, the os uteri is more patulous than it ought to be, and the discharge is thicker and more opaque than it ought to be.

* On Inflammation and Ulceration of the Uterus, p. 127, 2nd Ed.

† Whitehead on Abortion and Sterility, p. 306.

The symptoms are milder than in other cases; and yet I have seen severe dysmenorrhœa the consequence of it, with pain in the back, leucorrhœa, distress on walking, impaired general health, headache, pain in the left side, &c.

210.—11. *Inflammation of the cervix.* When the mucous surface is inflamed, it loses its unctuous feel, and at the same time the cervix is enlarged, but soft, unless the inflammation involve the deeper structures: in the latter case it is more or less swollen and indurated, and being increased in weight, it is depressed. Dr. Bennet states that it is also generally retroverted in married females, but this I have not found to be the case.

"When the inflamed cervix is brought into view by the speculum, its surface is found to offer a vivid red tinge, instead of the pale rosy color of health. It may present a uniform red hue, and be dotted with florid papulæ, or with white pustules consisting of mucous glands, hypertrophied, or distended with muco-pus; or it may offer any of the shades between the bright red of arterial blood and the livid tinge of venous blood, according to the state of the constitution. On the inflamed surface we find a certain amount of muco-pus, which requires to be wiped off before the state of the mucous membrane can be clearly ascertained."* Dr. Bennet attaches great importance to the presence of muco-pus, as it is not produced by mere congestion, and is evidence in itself of inflammation.

It must always be remembered, that although the inflamed cervix is the only part we can see, yet the inflammation may extend through the cervix to the mucous membrane lining the uterus, and in all such cases the os uteri and canal of the cervix will be found more patent than usual, and to this Dr. Bennet attributes great value as a pathognomonic symptom. "Whenever," he says, "the finger, instead of passing over a scarcely perceptible orifice, meets with a well marked depression, into which its extremity may be inserted to a greater or less extent, we may nearly conclude at once that inflammation, with or without ulceration, is present, and it becomes advisable to pursue the investigation further, &c." In like manner, the canal of the cervix and os uteri internum are rendered more open by inflammation, though it is not easy to explain the process. "The mucous membrane that lines the cavity of the cervix, when inflamed, presents a dark livid red hue, which may be traced with the eye to a considerable depth, by depressing with a sound the lower lip of the os. This surface bleeds easily on being touched with a probe, especially it excoriated or ulcerated, which is not the case in the healthy condition." "The inflamed mucous membrane of the cervical canal also secretes muco-pus in more or less abundance, and this muco-pus filling up the cavity, can often with difficulty be wiped away. I generally

* Bennet on Inflammation and Ulceration of the Uterus, p. 97.

use for that purpose a small piece of cotton inserted into the cleft of the fluid caustic holder, which may be passed into the cavity of the cervix, owing to its dilated state, and with which the mucus may be removed. Even when there is no pus present, the cavity of the cervix is often completely filled with glairy transparent mucus, evidently secreted by the mucous follicles of the inflamed lining membrane. This glairy mucus, which may be compared to the uncooked white of an egg, has much attracted the attention of writers on female discharges, and is considered to be secreted by the uterine organs generally as the result of debility, whereas, in reality it is secreted by the cavity of the cervix, and is nearly always the concomitant of inflammation. It is sometimes produced in very great abundance, and seems to take one of the principal forms of the vaginal discharge commonly called whites. The presence of great quantities of this glairy mucus, along with an open state of the os uteri, may be considered as pathognomonic of inflammation of the cavity of the cervix."*

The symptoms also will in general be better marked than in simple congestion, the pain in the back is more acute and more constant, and is increased by sexual intercourse: the menstrual discharge is often modified in quantity, and rendered more painful, and the general health suffers more in a shorter time.

211. III. *Granular inflammation of the cervix uteri.* For the earlier notice of this form of disease we are indebted to Boivin and Dugès,† Duparcque‡ and Lisfranc,§ and since their writings it has probably been noticed by all who have much practice in diseases of women.

These granulations, which may be seen on the labia of the cervix uteri, and on its external surface, may be the result of acute or chronic inflammation. In the *former* the granulations are occasionally few in number, about the size of peas, sub-pedunculated, firm, and whitish; more frequently they are of the size of mustard seeds, whitish but soft, as if vesicular, in great numbers, and without a pedicle. The contact of the speculum, or of the finger, or the act of defecation merely, gives rise to a discharge of blood from the surface. In the *latter* species, the consequence of chronic inflammation, the granulations are either small, hard, and whitish; reddish and soft; or miliary, without redness of the surface of the cervix uteri, from which they grow.

The pain and leucorrhœa are present as usual, but, in addition, coition is often painful, and even if not, is occasionally followed by

* Bennet on Inflammation and Ulceration of the Uterus, p. 101.

† Diseases of the Uterus, &c. Heming's Trans. p. 373.

‡ Traité théorique et prat. sur les Altérat. organiques de la Matrice, &c. p. 84.

§ Mal. de l'Uterus, p. 334.

bleeding. Pruritus of the vulva is sometimes symptomatic of this form of disease, as in a case at this moment under my care.

212. IV. *Erosion or abrasion of the cervix.* How long inflammation may go on in the mucous membrane of the cervix, without giving rise to a breach of surface, it is difficult to say, but certainly it may for a long time; sooner or later, however, superficial ulceration takes place around the os uteri, or on some portion of the cervix; but we find it commence more frequently in the former situation, and extend in different directions, so as to assume different forms. Dr. Bennet remarks that, "when an abrasion or excoriation only is present, the cervix is generally of a vivid red, and the granulations are often so minute, that it is at first difficult to ascertain whether the membrane is abraded or merely congested, or to perceive the limits of the ulceration when once it has been ascertained to exist. The doubt, however, may be solved by lightly touching the suspected surface with nitrate of silver. The abrasion immediately assumes a much whiter hue than the region which is merely congested, and its margin becomes well defined and evident. An abraded or excoriated condition of the mucous surface is generally the form under which ulceration presents itself in the cavity of the cervix, granulations of any size being very seldom met with in this region. In virgins also, ulceration often presents this character, especially when it is limited to the contour and cavity of the os."*

In addition to the simple form, when the mucous membrane only is eroded, and the surface is smooth, with but slight congestion or induration, Dr. Evory Kennedy has noticed several varieties. "The granular ulcer," like the simpler affections, "may commence on the lip, or may extend from within; it may occur at one spot on the os, or spread over both lips. It frequently would appear to extend from within the os, and is thus very commonly found combined with the same state of disease in the mucous membrane of the uterus itself. The granulations in this are redder and more distinct than in the former case, and almost always combined with increased development of the lip or lips engaged, and often with symptoms either of congestion or chronic inflammation of this part. When this affection extends upwards into the lining membrane of the uterus, a muco-purulent discharge exudes as well from the uterus as the ulcerated surfaces exposed to view. These surfaces would not account for the amount of discharge which very often accompanies this affection, and which evidently comes also from the upper part of the vaginal canal, which is usually of a dusky brick color, with occasional papillæ."†

Another variety Dr. E. Kennedy has termed the "cockscomb granulation." "It generally engages the immediate margin of the os,

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* Bennet, Op. citat. p. 102.

† Dublin Journal, vol. iii. p. 71.

consisting of larger, sprouting, papillous granulations, with or without intervening fissures dividing them into lobulated portions; the lobes when present appearing to dip a good way into the cavity of the uterus."* "There is another form of ulceration which resembles that now described, but is less sprouting in its granulations. It assumes, like that, a vivid red tint generally, engages one or both lips of the os, close to the aperture, although not necessarily found here, and occasionally extends completely into the neck, engaging the entire of both lips: it is generally in its advanced stage very lobular and fissured in its character, although not necessarily so at first, or when at some distance from the os: it is what might be called 'doughy' or 'boggy' in its structure, the caustic or sound sinking very deeply into it without any resistance being offered, and its bleeding very freely on the slightest touch: it is commonly attended with irregular red discharges, appearing at intervals, and particularly after intercourse: this occasionally amounts to debilitating hæmorrhage, with discharge of clots, &c."†

Many more varieties might be added, if it were of any use; but the chief and most important points in all are, that there is inflammation and erosion of the mucous membrane, with or without granulations. Much more important is it practically to remember, in treating a case, that the same disease to which we are applying remedies, may extend into the cervical canal, and that we are not to assume the case to be cured, merely because the external erosion has healed.

The tissue underneath these superficial ulcers seems to be thickened, especially at their edges, as we may discern by the touch. They are common at all ages, but particularly after marriage, and are often a cause of sterility. If they occur after conception, or if conception take place in spite of them, abortion not unfrequently occurs, as I have found, and as has been shown by Mr. Whitehead and Dr. Bennet.

They are also found in most cases of polypus uteri, at that part which was in contact with the stalk or body of the polypus. This has been pointed out both by Dr. Montgomery,‡ Dr. Bennet, and Dr. E. Kennedy.

Upon the whole, in one form or other, I should say that few diseases of the uterus are more frequent: many obstinate cases of leucorrhœa, which have resisted the usual treatment, I have found upon internal examination to be really cases of erosion of the cervix.

The symptoms in some cases are very slight, so that it is with difficulty the patient can be persuaded that the womb is in fault; in some instances they are so distant, that it is scarcely to be supposed that they

* Dublin Journal, vol. iii. p. 72.

† Ibid. p. 74.

‡ Dublin Journal, Aug. 1846.

arise from a lesion of this organ; but in other cases we find all the distressing symptoms I have already enumerated, and the broken health, clearly traceable to their local cause.

213. V. *Ulceration of the cervix uteri.** The ulceration which results from the inflammation may, however, do more than merely remove the epithelium or mucous membrane; it may dip into the substance of the cervix itself, assuming various forms, and taking various directions around the os uteri, or the half of it, or forming a groove in its substance. The depth may vary from a few lines to a quarter or half an inch. I have seen a great portion of the cervix thus destroyed. The edges are clear cut, neither elevated nor hard, and the surface of the ulcer has a granulated healthy look, generally covered more or less by purulent matter: or the granulations may be more abundant, "firm, of a vivid red hue, scarcely bleeding on pressure: or they may be large, fungous, livid, and bleeding profusely at the slightest touch. These fungous ulcerations are generally connected with torpor of the local circulations. When they are present, the congestion of the vagina and cervix is often very great, of a livid venous character, and the non-ulcerated surface of the cervix may present dilated varicose veins.' †

In this variety there is generally marked local pain, not merely in the back, but in the centre of the pelvis, from whence it radiates. It is sometimes a stinging pain, sometimes a sense of burning, and occasionally there are rigors. The pain often amounts to agony during coition, or during a menstrual period. There is more or less leucorrhœa, and sometimes a tolerably profuse discharge of blood. I regard this variety as far more serious than the others, and am by no means sure that it may not prove fatal if neglected, which the others will scarcely do, except by preparing the way for other diseases.

214. VI. *Hypertrophy and induration of the cervix.* I shall now notice two consequences of the previous states, which are so closely connected with these cases, that they generally require to be included

* Burns' Midwifery, p. 106. Astruc. Diseases of Females, vol. ii. p. 77. Clarke. Diseases of Females, vol. ii. p. 185. Boivin and Dugès. Diseases of the Uterus, p. 366.

After describing 'Corroding Ulcer,' Mr. Burns observes, "There is another kind of ulcer which attacks the cervix and os uteri. It is hollow, glossy, and smooth, with hard margins, and the cervix a little beyond it is indurated and somewhat enlarged, but the rest of the uterus is healthy. The discharge is serous, or somewhat purulent. The pain is pretty constant; and the progress is generally slow, though it ultimately proves fatal by hectic. In this and all other diseases of the uterus, the morbid irritation generally excites leucorrhœa in a greater or less degree; but examination ascertains the morbid condition of the part."—Midwifery, p. 102.

† Bennet on Inflammation and Ulceration of the Uterus, p. 103.

in our curative efforts. Dr. Bennet, in his valuable work, from which I have quoted so largely, says truly that "inflammatory ulceration of the cervix is generally followed in the course of time by important changes in the structure, size, and form of the organ. One of the first effects of the disease is, as we have seen, to produce congestion and swelling of the central structure of the uterine neck; the cervix becoming larger, but at the same time remaining soft and elastic. This state may long continue without any other change taking place. I have repeatedly found the cervix enlarged, swollen, and congested, but perfectly soft, after years of disease, especially when the disease has been limited to the cavity of the cervix, or to the immediate vicinity of the os. Generally speaking, however, this is not the case. The central tissues are not only congested, but inflamed; effusion of plastic lymph takes place in their structure, and becomes more and more organized. Thus the cervix is not only enlarged but indurated. At first the central induration is evidently of an active inflammatory nature, as indicated by the increased heat of the organ, the vivid redness, and sometimes the pain on pressure. If the disease is not subdued, in the course of time these symptoms of inflammatory action partially subside, and the cervix becomes the seat of mere chronic hypertrophy, the inflammatory origin of which is scarcely discoverable. The extent to which inflammatory hypertrophy of the cervix may be carried is perfectly surprising; the size of the uterine neck thus affected varying from that of a small walnut to that of a man's fist."*

As we might have anticipated, this enlargement is least in virgins, and in those who have not borne children: the nearer a woman is to the period when she has borne a child or miscarried, the larger the cervix becomes when attacked by inflammation. Generally speaking, the cervix only is affected; but in some rare cases the enlargement extends to the lower portion of the body of the uterus.

This induration and hypertrophy in its turn becomes a cause of irritation, giving rise apparently to inflammation and superficial ulceration.

Either or both lips may be thus hypertrophied; in the former case the lip will project over, and hide the os uteri, which will be found at some distance behind or above the lip, according as the posterior or anterior lip is affected; and in the latter case, the os, instead of being a circular opening, will assume the form of a transverse fissure. "The indurated cervix is not unfrequently divided into separate lobes. The presence of these lobes is an evidence of antecedent laceration of the cervix during an abortion, a difficult or instrumental labor, or even sometimes during a natural labor. The lacerated surface not healing, the ulceration in course of time is followed by hypertrophy of the segments into which the cervix is divided. These segments sometimes

On Inflammation and Ulceration of the Uterus, p. 111.

assume a stony hardness, and their existence generally leads to the supposition that the patient is laboring under carcinoma. I have met with several cases of this description, in which the disease had been erroneously pronounced to be cancerous by high authorities. There is, however, an easy means of establishing a diagnosis, which, simple as it is, has not yet been pointed out. When the lobular, knotty, irregular condition of the cervix is the result of laceration, and is simply inflammatory, the fissures which separate the lobes radiate round the cavity of the os as a centre,—which is not the case in a cancerous tumor—each separate lobe being perfectly smooth in itself, and free from tubercles or superficial inequalities."*

The inconvenience of an enlarged cervix will depend a good deal upon its size; it keeps up a permanent irritation, and, if large, gives a feeling of weight in the pelvis, and bearing down, very much resembling a certain amount of procidentia uteri.

215. VII. *Displacements of the cervix.*—Another, but a mechanical effect of these changes of volume and weight, is to alter the relative situation of parts. The most general displacement is a certain degree of depression, amounting in extreme cases to prolapse, especially when the patient is standing. This seldom occurs in those who have not had children, but in those who have, the cervix may descend to the vulva, or even appear externally, with all the distressing symptoms of prolapsus uteri.

Again, when the cervix uteri is brought lower than usual, "it is frequently directed backward, so as to press on the posterior parietes of the vagina, and on the rectum, whilst the body of the uterus may or may not be curved forward. This change of position, which constitutes retroversion of the neck of the uterus, is so commonly met with in married females suffering from inflammatory induration, as to constitute nearly the rule. With them it is evidently the result of intercourse. In the healthy state, the cervix is soft and small, and yields to pressure; but when it is enlarged and indurated, it must necessarily offer resistance, and consequently be thrust backward, and lodged in the cavity of the sacrum. The constant recurrence of this physical cause of displacement in these cases, eventually renders the retroversion of the cervix permanent." "The hypertrophied cervix is sometimes directed anteriorly, or anteverted; it then lies behind the pubis, more or less high according to the anteversion. When this is the case, it is always owing to some enlargement of the body of the uterus, which causes the uterus to fall back into the cavity of the sacrum, and thus throws up the cervix. The hypertrophied cervix occasionally lies diagonally in the pelvic cavity, to the left or to the right; so that the finger passed into the pelvis, per vaginam, in a

* Bennet on Inflammation and Ulceration, &c. p. 112.

straight line towards the sacrum, misses it entirely, leaving it on one side."*

216. So much for the varieties of the local disease and its effects; let us add a few words now as to the modifications occasioned by its occurrence in virgins, married women, or elderly persons.

1. The symptoms do not differ much in *virgins* from those already mentioned, the most marked difference being the production of dysmenorrhœa. Pain accompanies menstruation, which it did not do previously; or, if it did, it is much increased when erosion occurs. Leucorrhœa and great debility are additional characteristics.

2. In *pregnant* women the general symptoms present the usual characters, but of course, from the changes which have taken place in the uterus, the results of an examination by the touch and the speculum are different, inasmuch as the cervix is more or less expanded. The lips will be found congested, swollen, and more or less eroded or ulcerated, with a greater or less exuberance of granulations Dr. Bennet observes, "This great development of the granulations, the luxuriant fungosity of the elevated surface, is so marked in some cases, and so seldom observed in the non-pregnant state, that when it is found, it may be said in itself to constitute a symptom of pregnancy."

When induration has previously existed, it begins to soften about the third month, and disappears with the complete expansion of the cervix.

The general symptom are very distressing, and the health suffers much. Pain in the back, irregular pains, nausea, loss of appetite and rest very commonly occur, and the patient becomes pale and thin, subject to functional disorders of the stomach and bowels, with headache, &c.

3. In *elderly* women the disease is not very common, owing probably to the diminished vascularity of the cervix, but still it does occur, and this is Dr. Bennet's description of it: "On examining digitally and instrumentally, the cervix is found small, indurated, sometimes lobular; but in that case the lobules are regular, and their divisions radiate towards the centre; the os is slightly open, and presents sometimes, but not always, within its contour, the velvety sensation of ulceration The vagina is in some cases rather rosy and congested, whilst in others it presents a blanched appearance, peculiar to it in advanced life. To the eye, the cervix appears of a vivid red hue, and the ulcerated surface generally seems irritable and angry; the granulations are small; and there is scarcely ever any appearance of luxuriance, or of fungosity about them. The cavity of the cervix is closed at a short distance from its external oritice." There is con-

* Bennet on Inflam. and Ulceration of the Uterus, pp. 113-14.

siderable disorder of the general health, and the pain in the back is very troublesome: they are moreover very intractable.

217. *Diagnosis.*—1. By the symptoms alone, it will often be very difficult to distinguish between erosion and *uterine catarrh*; but I have generally found that when cases of the latter kind, as I supposed, proved unusually intractable, it was owing to congestion and erosion of the cervix. Obstinacy to ordinary treatment, therefore, should lead to, as it fairly justifies, an internal examination, and the use of the speculum will leave no doubt as to the nature of the disease.

2. From *corroding ulcer.* In simple ulceration the depth and extent of the ulcer are limited, hemorrhages are rare, the discharge is almost always inodorous, and the constitutional symptoms are not severe; whereas in corroding ulcer, a great part of the uterus is destroyed, alarming hemorrhages occur, the discharge is fœtid, often acrid, and the patient's constitution is destroyed by hectic fever.

3. From *cancer uteri.* There is no morbid deposition into the uterus or surrounding parts in simple ulceration, and consequently the uterus is moveable; the discharge is bland, in cancer it is acrid and offensive; the pain is dull, in cancer it is acute; and lastly, there is seldom hemorrhage.

4. Cases of hypertrophy with induration may be mistaken for *prolapsus uteri,* if the enlargement be excessive; but a careful examination will show, that although the uterus is lower than usual, the most dependent part is really the cervix.

5. The same cases may have been mistaken for *carcinoma,* but Dr. Bennet has given a very simple guide for our diagnosis. The fissures radiate from the os uteri as a centre, which they do not in carcinoma. I may add, that in carcinoma deposition into the neighbouring tissues takes place, often even before ulceration sets in. In hypertrophy there is no deposition into the surrounding tissues.

218. *Treatment.*—The stage of the disease must determine the remedies to be employed. If we are fortunate enough to see the patient during the inflammatory stage, we may hope by active measures to anticipate the ulceration

A fair quantity of blood may be taken from the loins by cupping, from the cervix by scarification, or leeches may be applied to the vulva, or (by means of the speculum) to the cervix uteri. Great benefit is frequently derived from this latter mode of local blood-letting.

This should be followed by hip-baths and emollient vaginal injections, by which means, aided by mild laxatives, we may hope to lessen the tenderness and swelling of the cervix; and when this is done, counter-irritation may be produced by blisters, &c. to the sacrum.

If ulceration have set in, we may find it necessary to throw up a few emollient vaginal injections, before proceeding more actively to work.

Then we may try astringent injections, especially if the ulcer be very superficial. Astringent ointments have been applied to the diseased part directly by means of the speculum. Picard cured some simple cases by thus using the ung. plumb. acet., and some syphilitic ones with the ung. hydrarg.

If the disease have made some progress, or if it resist milder remedies, it will be necessary to cauterise the ulcerated surface.

This can be done either by fluid injections into the vagina, or directly by means of the speculum. There is one disadvantage attending the former, viz. that the caustic is applied where it is not needed; and if it be of great strength, inconvenience may result: this is avoided by using the speculum, with the additional advantage of being able to use either solid or fluid caustics, and to apply them exactly to the points which most need them.

Jobert and Marjolin have been very successful in their management of these cases; they apply the pernitrate of mercury to the ulcer by means of a camel hair pencil, and repeat it as often as may be necessary.

At present, however, M. Jobert uses the actual cautery (at a white heat) for the cure of even simple ulceration of the cervix, as well as for the cure of hypertrophy and induration.

M. Lisfranc has stated the following circumstances as forbidding the application of caustic. 1. He defers it if there be much "*engorgement*" of the uterus. 2. If there be inflammation of the vagina or of the cervix uteri, or even if the patient suffer severe pain. 3. The caustic is not to be applied within four or five days of the appearance of the menses, nor for three or four days afterwards.

The caustic is applied by means of the speculum carefully introduced, the cervix first being cleansed from mucus by means of a camel-hair pencil. M. Lisfranc prefers the protonitrate of mercury, as a caustic, to all other. It has succeeded much better in his hands than the nitrate of silver.* Dr. Cancoin has recommended the chloride of zinc, which possesses, he says, the advantage of forming a dry eschar.†

Dr. Montgomery uses the nitrate of silver, the acid nitrate of mercury, &c. with scarifications, in the cure of hypertrophy.‡

Dr. Bennet uses the nitrate of silver in inflammation without ulceration of the cervix uteri, and when ulceration exists, either the lunar caustic, the acid nitrate of mercury, or the potassa cum calcè: of the latter he speaks in very high terms, and Prof. Simpson's experience seems to corroborate his opinion. Latterly, however, Dr. Ben-

* Mal. de l'Uterus, p. 338

† Ibid. p. 345, note by M. Pauly.

‡ Dublin Journal, vol. ii. p. 45. New Series.

not has preferred using the potassa fusa, guarding the upper lip of the cervix by a previous application of the nitrate of silver.*

Dr. E. Kennedy uses nitrate of silver or copper, acid nitrate of mercury, &c. He describes an instrument by which he considers that he can safely throw injections into the uterus, so as to apply the remedies to the entire extent of the disease.†

Mr. Whitehead recommends local depletion at the commencement, cauterization, and internally, soothing and occasionally alterative medicines.‡

I have tried most of the ordinary caustics myself, and generally with benefit. The plan I have found most useful is, after cleansing the cervix, to apply first a strong caustic, either nitric acid, muriatic acid, chlorate of zinc, acid nitrate of mercury, &c. with a small roll of lint and a pair of dressing forceps, to the erosion, and a little around it. It is well to touch the surface afterwards with a little dry lint, to take away the excess of caustic which might spread to the neighbouring parts. After four or five days, or a week, I then apply the caustic tincture of iodine, and repeat the application once or twice a week until the ulcer is healed. If the granulations are exuberant, the stronger caustic must be applied again, but I have constantly found the iodine sufficient. I very much prefer it to the nitrate of silver, as, in addition to its caustic effects, I think it exerts its peculiar power upon the enlarged cervix. I have succeeded, in congestion of the cervix without ulceration, better by its use than by any other means. An occasional blister to the sacrum will greatly assist the action of these remedies.

After curing the external erosion or ulceration, we must carefully examine, so far as we can, the state of the cervical canal, and if the disease has extended therein, apply the iodine or other preparations to the part by means of long fine pencils of lint.

219. These remedies, or a modification of them, are applicable to all cases of congestion, inflammation, or ulceration, but for hypertrophy with induration, it is proposed to produce a deep eschar and slough either by the actual cautery, Vienna paste, or the potassa fusa. Dr. Bennet prefers the latter, which must be kept in contact with the diseased surface for a short time, so as to give rise to a slough; and he adds an important explanation: "I wish it to be most distinctly understood, that *I do not propose to destroy* the hypertrophied cervix by cauterization, but merely to set up an artificial stimulating inflammation, by means of an eschar or issue of *limited extent*, established in the centre of the hypertrophied region. I do not calculate in the remotest degree on the destruction of tissue, to which the caustic or

* On Inflam. and Ulceration of the Uterus, p. 410

† Dublin Journal, vol. iii. p. 90, new series.

‡ On Abortion and Sterility, p. 309.

cautery gives rise, for diminishing the size of the hypertrophied cervix; but solely and entirely on the *inflammation subsequently set up.*"

I gather, however, from Dr. Simpson's paper, that his intention is to remove all, or the greater portion of the indurated part, by the use of the potassa fusa;* and I cannot but fear, as Dr. Bennet observes, that the inflammatory reaction set up afterwards may in many cases prove injurious.

In the case of young women who are not married, or who have had no children, and of elderly women, the foregoing treatment will be very suitable, and require but little modification; but if the patient be pregnant, that is no reason why we should not attempt to cure the disease, but only a motive for choosing the milder applications. M. Gouisier† has recorded several successful cases of this kind, and I could add many more.

CHAPTER XIV.

INFLAMMATION OF THE UNIMPREGNATED UTERUS.‡

220. This disease is by no means of frequent occurrence, neither are the symptoms to which it gives rise at all so marked as might be expected.§ It may occupy the body of the uterus alone, or the body and cervix; it may be confined to the proper tissue of the uterus alone, or it may involve the lining membrane.‖

It scarcely ever occurs before the age of puberty, and is very rare until after marriage. Dance has related a case where the uterus was extensively inflamed in a child of eight years old.¶ Burns states that it occurs about the period of the cessation of the menses.**

* Edin. Monthly Journal. Ranking's Abstract, vol. vi. p. 161.
† Journal des Connoiss. Med. Nov. 1839, p. 77.
‡ Manning. Diseases of Females, p. 262. Astruc. Dis. of Women, vol. ii. p. 1.
Capuron. Mal. des Femmes, p. 129. Dict. de Med. et de Chir. prat. art. Metrite.
Boivin and Duges. Dis. of the Uterus, &c. p. 313.
Siebold. Frauenzimmerkrankheiten, vol. i. p. 521.
§ Clarke on Diseases of Females, vol. ii. p. 29. Ed. Med. and Surg. Journal, vol. xvii. p. 479.
‖ Nauche. Mal. propres aux Femmes, vol. i. p. 315.
¶ Archives Gen. de Med. Oct. 1829.
** Midwifery, p. 96.

221. *Causes.*—Local contusion is probably the most frequent cause: thus, Dr. Waller says that the best marked case he ever saw occurred soon after marriage, and all writers mention this period as peculiarly favorable to its production.* In a case which came under my care also, it came on soon after marriage in a patient with an unusually short vagina.

Blows externally may give rise to it: a cold taken during menstruation, by wearing light dresses, or exposure in any other way, by suppressing the secretion, may convert the periodical congestion into active inflammation. It has also been attributed to a long walk or violent exertions during menstruation. In addition, Dr. Lever attributes it to strong astringent injections for the cure of leucorrhœa;† and Dr. Huston saw two cases resulting from the use of ergot in menorrhagia.

222. *Symptoms.*—If the attack be *acute*, it may commence by rigors, succeeded by feverishness; then some heat and uneasiness will be felt in the pelvic region, and occasionally paroxysms of sharp pain in the back, darting through to the symphysis pubis, and down to the groin and thighs. The ordinary dull pain is less severe, but constant, greatly increased by coughing or sneezing, and occasionally accompanied by a sensation of bearing down.

If slight pressure be made upon the abdomen, there is no increase of pain, but if deep pressure down towards the brim of the pelvis be made, the suffering is considerable. Under ordinary circumstances, the bony pelvis affords protection to the enlarged and sensitive uterus. An *internal* examination will reveal an increase of size in the womb, which is often somewhat depressed in the pelvis, and it will identify the tumor in the pelvis with the one in the abdomen. Pain will be experienced on pressing the cervix, particularly at some one point.

The os uteri is generally more open than natural, and will be found in the back part of the pelvis.

In some cases the menses are not suppressed, or at least for some time, and these patients experience a great aggravation of their sufferings at each monthly period. In others the uterine function is entirely arrested. Occasionally there is a slight mucous discharge.

The constitutional symptoms vary very much: it is seldom that we see much fever; the pulse may be somewhat quicker than usual, but very often it is unaffected. It is sometimes feeble.

The state of the skin is generally answerable to the pulse; when this

* Cyclop. of Pract. Med. art. Pathology of the Uterus.
Duparcque. Traite theorique et pratique, &c. p. 159.
Lisfranc. Mal. de l'Uterus, p. 300.

† Pract. Treatise on Diseases of the Uterus.

is quick, the skin is hot and dry; and when feeble and slow, the skin is cool.

When the fever is marked, the patient sometimes complains of pain above the orbit, dimness of sight, or partial deafness.*

The local irritation, after a while, is propagated to the neighbouring organs; the rectum, vagina, urethra, and bladder, all participate. The fæces and urine are discharged with considerable pain and difficulty.

223. Distant sympathies are also excited; the breasts swell, and become painful.† The stomach becomes irritable; nausea, and even vomiting, are not unfrequent; the appetite is diminished; the digestion is impaired; the bowels become constipated; and the general health suffers very much. Sitting up occasionally causes fainting.

Burns mentions that retroversion or anteversion may take place, and we shall see by-and-by that this is by no means improbable.‡ Of course, such an occurrence will be marked by the appropriate symptoms.

Inflammation of the womb is sometimes, but rarely, fatal.

Such are the principal symptoms which have been noticed in the *acute* form of the disease; the *chronic* form differs from it chiefly in the minor intensity of the symptoms. It is often very insidious, giving little evidence of its presence; there may be a dull pain in the lower part of the abdomen, some depression of the uterus, and a mucous discharge. The derangement of the digestive organs (vomiting, loss of appetite, &c.) is generally present, and indeed may lead us to suppose these organs to be the parts primarily affected.

Menstruation is more or less disturbed, and, if the disease continue, it will be suppressed.

The evacuation of urine and fæces is attended with pain and inconvenience.

There is generally very little constitutional suffering: the pulse is soft, scarcely quicker than usual, but easily accelerated.

The duration of this form varies much; it may, however, continue for a long time. In itself it does not prove fatal, though its consequences may be serious.

224. *Terminations.*—It would appear from the testimony of authors, that inflammation of the uterus frequently terminates in resolution. That it does not degenerate into cancer (as formerly supposed) may be considered as decided. There are other pathological conditions, however, which, though rare, deserve notice, as consequent upon inflammation of the organ.

* Boivin and Dugès. Heming's Trans. p. 316.

† Nauche. Mal. prop. aux Femmes, vol. i. p. 318. Capuron. Mal. des Femmes, p. 131.

‡ Ed. Med. and Surg. Journal, vol. xviii. p. 520

1. *Hypertrophy or induration*, which appears to consist either in a temporary enlargement, probably from afflux of fluids, or in a permanent augmentation of the tissue of the womb itself, which may thus be vastly increased in size. If a section be made, the texture will be found more or less firm, according as the induration is temporary or permanent, and of a reddish or greyish color. The surface is smooth and uniform. This augmentation of volume gives rise to certain mechanical symptoms, owing to its pressure on the bladder and rectum, and to the depression of the uterus. "With this state," says Dr. Hooper, "the whole of the uterus is of a preternatural size, more especially the body of the uterus, without any other morbid or unnatural appearance; and this increase of size is caused by an unusual formation of the healthy structure of the organ. With regard to the extent of this unnatural occurrence, I have found the uterus more than twice the usual size, and this may be considered as the mean or most common size in hypertrophy, but it is sometimes much larger."* He describes hypertrophy with hardness, and hypertrophy with softness, but does not expressly state that either results from inflammation.

2. *Ramollissement.* That hysteritis may thus terminate is not to be questioned. Dr. Burns† says, "sometimes, as a consequence of inflammation, more or less distinctly marked, but occasionally without any very distinct indication of uterine disease, we find part or the whole of the womb softened, and its substance very easily torn. A modification of this 'ramollissement' has been described as affecting the neck rather than the body of the uterus, and converting it into a black, fœtid putrilage."

More recently, M. Duparcque has observed, "The autopsy of females who have died of metritis (acute,) shows the tissue of the uterus swollen, reddish-black, softened, friable; the blood with which it is engorged is mixed with a puriform or serous fluid: we find also, here and there, small collections of pus or larger abscesses."- - - - "Lastly, we meet some parts black, '*putrilagineuses*,' and evidently gangrenous."

The fœtor spoken of, however, is by no means a necessary or usual accompaniment of 'softening.'

3. *Abscess.* Though rare, (except in the hysteritis following delivery,) yet examples of suppuration of the uterus are on record in the works of Mauriceau, Van Swieten, La Motte, &c.

Mr. Howship has a preparation of a uterus, in the walls of which there is an abscess containing an ounce of pus. The collection may also take place in the cavity,‡ and the purulent matter may escape

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* Morbid Anatomy of the Human Uterus, p. 5 See also Duparcque, p. 183, et seq. Lisfranc, pp. 300, 310.

† Midwifery, p. 97.

‡ And may co-exist with closure of the uterine orifice. See paper

through the vagina into the rectum, peritoneum, or into the cellular tissue of the pelvis. It generally gives rise to some fever, and its evacuation may be attended with danger and death.

4. *Gangrene* or *Sphacelus*. This occurs very rarely, but when it does, it is of course fatal. Astruc says that the gangrene or sphacelus never happens to the uterus or vagina but in one of these cases. "1. In violent inflammations which attack these parts, and then it is generally in the height of the inflammation that the gangrene and sphacelus come on, i. e. from the third or fourth day of the disease to the seventh or eighth. 2. In *descensus* of the uterus, when the part which is fallen to the outside remains a long time in such a state, which can only be that of compression and strangulation. 3. In the phagedenic ulcers, which corrode the internal surface of the uterus or vagina."* The gangrene may affect the whole body of the uterus, but this is rare; it is more generally confined to the neck. In these cases, "The pulse is low, quick, concentrated; the patients are seized with shiverings, startings, and even convulsive shakings of the body, without any apparent cause; and at the same time that they cease to feel any pain in the uterus, or but a less degree, they fall into a state of oppression or extraordinary uneasiness, which is but little short of fainting; and the extremities become so cold, that scarcely any warmth can be excited in them." It is, perhaps, impossible to detect this termination before the death of the patient; the cessation of pain and the fetid discharge may take place from so many causes, independent of gangrene.

225. *Diagnosis.*—1. From the uneasiness and difficulty attendant on evacuating the bladder and rectum, the complaint might be mistaken for *inflammation of those viscera*, but an *internal* examination will reveal the real nature of the disease.

2. From *scirrhus uteri*. The uterus is but slightly enlarged, and there is none of the hardness so remarkable in scirrhus; besides which, the tenderness is much greater in inflammation of the uterus, and the heat is increased.

3. From *cancer uteri*. An internal examination will inform us that ulceration has not taken place, and the discharge (if there be any) is of a bland character, very unlike the fetid discharge in cancer. The general symptoms also are much milder.

4. A thorough investigation into all the symptoms will prevent our treating the *gastric irritation* as the sole or principal malady.

226. *Treatment.*— Much of the activity of the treatment will depend upon the *acute* or *chronic* character of the attack, and upon the constitution of the patient. Venæsection will only be necessary where

by Dr. J. Clarke in the Trans. for the Improvement of Medical and Surgical Knowledge, vol. iii. p. 560.

* Diseases of Women, vol. ii. pp. 35, 36.

there is fever. Cupping the loins, or leeches to the vulva or anus, to be repeated if necessary, are preferable. We can even apply leeches directly to the uterus itself by means of the speculum, and this is advised by Guibourt and Duparcque. Punctures of the uterus are recommended by Dujarrie Lassave.

In *acute* cases, after the employment of antiphlogistics, and in all *chronic* cases, much benefit may be anticipated from counter-irritation, either by the insertion of a seton, or by a succession of blisters to the sacrum.

A hip-bath should be frequently used, and vaginal injections of bland mucilaginous fluids thrown up, twice or three times a day.

Cooling and anodyne enemata have been recommended. Mr. Stewart* even prefers them to the vaginal injections. Externally, fomentations (*e. g.* decoction of poppy-heads, with a small quantity of laudanum,) are highly beneficial; and at a more advanced stage, embrocations to the loins.

As to internal medicines, probably our surest reliance is upon calomel and opium, given so as to affect the system, and with more or less rapidity, according to the urgency of the case.

Should diarrhœa render the continued employment of the calomel impossible, the opium may be given alone. It is better not to administer purgatives until after the subsidence of the inflammation, as the action of the bowels aggravates the pain. Waller prefers saline purgatives, with diaphoretics, to all others.

Small doses of antimony may be given in saline draughts, with three or four drops of laudanum, or a drachm of the syrup of poppies. Diuretics have also been recommended.

The diet should be light, yet nourishing. The patient should sleep on a hard bed, and apart from her husband.

In chronic cases, when permanent thickening of the uterine parietes or hypertrophy has taken place, both general and local means for promoting absorption should be employed. Great benefit may be expected from the use of iodine in such cases. I have seen several cases of this kind, in which the prolonged exhibition of this remedy was followed by a very decided diminution in the volume of the cervix.

* Med. Chir. Trans. vol. v. p. 154.

CHAPTER XV.

FIBROUS TUMORS OF THE UTERUS.*

227. UNDER this title I include all the more dense morbid growths, which have little or no influence upon the constitution from peculiarity of structure, but whose effects are chiefly mechanical; which are rarely inflamed or ulcerated;† and which are not malignant.

The only division I think it necessary to make, is into those which have a pedicle and those which have not. The symptoms, consequences, and treatment of these two classes vary much, even though in structure the tumors may be identical.

Let us, then, first consider the *non-pediculated tumors* of the uterus, or, as they are ordinarily called, *fleshy and fibrous tumors*.

These are by no means unfrequent after the age of 40, though rather so previously, and their presence is as frequent in unmarried as in married females; indeed, Bayle thinks them rather more common in virgins. He asserts that one out of every five old women has them.

Out of twenty uteri examined by Portal, he discovered fibrous tumors in thirteen. Sir C. M. Clarke has never met with them in females before the age of twenty years.

They are found of all sizes, from that of an almond to that of a man's head. Gaultier de Claubry met with one weighing 39lbs.; another, which projected externally by a pedicle of an inch thick from the fundus, weighed 40lbs., was forty-six inches in circumference, and thirteen in diameter, is described by Kummer.

It would not be difficult to multiply examples, but it is more important to observe that the consequences of such tumors are not in proportion to their size.

The tumors may be single, or they may consist of a congeries of smaller tumors, each with its own capsule, but agglomerated so as to form apparently one large mass, which may render an investigation for other purposes difficult.‡

* Davis's Obstetric Medicine, vol. i. p. 665.
Baillie's Morbid Anatomy, p. 383.
Sir C. Clarke on Diseases of Females, vol. i. p. 268.
Cyclop. of Pract. Med., art. Pathology of the Uterus.
Ingleby's Facts and Cases. Dict. des Sciences Medicales.
Boivin and Dugès. Diseases of the Uterus, p. 177.
Safford Lee. On Tumors of the Uterus.

† Quarterly Journal of Medicine, March, 1822.

‡ Clarke on Diseases of Females, vol. ii. p. 208.

These tumors may either be imbedded in the uterine parietes, or they may be immediately behind the serous or mucous membranes; of course, in the latter case, they will project internally or externally, causing a considerable alteration in the figure of the womb, and a diminution in its capacity. It is very rarely that they commence near the cervix.

After an examination of seventy-four preparations in the London Museums, Mr. S. Lee states that the most frequent position is the submucous, just below the openings of the Fallopian tubes; next, the posterior wall and fundus of the uterus; very rarely in the anterior wall, and still more rarely in the cervix uteri.

228. *Pathology.*—The structure of these tumors varies much. Some of them, when cut into, exhibit a fleshy texture, with slight interlacing of fibrous lines; these are the softest of this kind of morbid growth, and were called fleshy tubercles by Hunter and Baillie. Others have been described of a more red and vascular structure, resembling very much that of the uterus.*

But those which are ordinarily met with are much harder and more dense. They are composed of a white or grey fibrous tissue, with cellular areolæ. Here and there portions may be detected softer or harder than the general mass.

Some of these harder portions consist of calcareous matter, which has recently been analysed by Drs. Turner and Bostock. The former found it to consist of carbonate of lime and animal matter, but the researches of the latter chemist have discovered a greater variety of component substances. In three cases he found phosphate and carbonate of lime, with animal matter; in three others, phosphate, carbonate, and sulphate of lime, with albumino-serous matter. The proportions of these constituent parts varied a good deal.†

When the substance is cut into, the surfaces may be dull or resplendent, intersected irregularly with numerous white lines, and here and there resembling divided cartilage.

Occasionally a large vessel may be discovered, generally on the surface of the tumor; but far more frequently there are none to be seen.

* Clarke on Tumors of the Uterus, p. 3.

† See Dr. Lee's admirable paper on fibrous tumors of the uterus, in the Medico-Chir. Trans. vol. xix. Macintosh. Pract. of Physic, vol. ii. p. 409. Cruveilhier. Anat. Pathol. Liv. 13, pl. 4.

Burns says, "Sometimes the whole uterus is a little enlarged, and changed into a white cartilaginous substance, with a hard, irregular surface; or it may be enlarged and ossified...........Steatomatous or atheromatous tumors of various sizes, or sarcomatous or scirrhous-like bodies, may be attached to the uterus.'—*Midwifery*, p. 112.

Again, p. 114, "Earthy concretions are sometimes formed in the

According to Sir C. Clarke and others, injections cannot be made to penetrate their substance.*

Mr. S. Lee states, "I have examined many portions of these tumors from various situations of the uterus by the microscope, and find that they invariably present a cellulo-fibrous appearance. From a part of a central tumor three different degrees of the same object were observed: in one portion, the cellular tissue predominated; in another, the fibrous tissue, combined with cells; and in a third, the true-looped fibrous tissue, radiating from a centre, and diverging into a form resembling the star fish."†

If they be examined exteriorly a little more minutely, it will be found that they receive a more or less perfect covering of the uterine fibres. Sometimes the tumor is entirely enveloped in them; at others, only that portion nearest to the uterus. We shall find this an important consideration in those tumors, which, by natural growth, or by force of compression, assume the form of polypi.

The shape of the tumors will depend very much upon their situation; those which encroach upon the cavity of the womb, for instance, will be modified by the pressure of its parietes;—we may find them round, angular, or conical, and sometimes lobated.

Various theories have been broached to explain their formation. By some they are regarded simply as lesions of nutrition, and by others they are considered as a species of concretion around a nucleus of coagulated blood or pus.

Authors are now pretty well agreed as to the progressive changes which take place in these tumors. Dr Baillie, in 1787, suspected that the calcareous concretions discharged from the uterus originated as fibrous tumors, and the researches of Bayle, Bichat, Knox, Breschet, and Andral confirm this view.‡ We may therefore regard those morbid growths which present a gradual increase in density, as the same species of tumor in different stages; commencing with the fleshy, soft structure; and terminating in the calcareous concretions which have been noticed by many authors.§

cavity of the uterus, and produce the usual symptoms of uterine irritation. This disease is very rare." And in a note, "Gaubius relates a case where it was complicated with prolapsus uteri. After a length of time, severe pains came on, and in an hour a large stone was expelled; next day a larger stone presented, but could not be brought away until the os uteri was dilated. From time to time after this, small stones were expelled, but at last she got completely well."

* Clarke on Diseases of Females, vol. i. p. 169.

† On Tumors of the Uterus, p. 6.

‡ See Dr. Lee's Paper in Med. Chir. Trans. vol. xix.

§ Med. Commentaries, vol. iii. p. 58, vol. iv. p. 452. Ed. Med.

"According to Bayle, fibrous bodies are observed to increase gradually in consistence, from their first sarcomatous form to their last stage of osseous concretion. To this it might be replied, that the least considerable of these tumors are fibrous, cartilaginous, osseous. But here we shall answer with Bayle, that amongst the sarcomatous tumors, there are some which have a tendency at once to maintain a soft consistence and to increase in size, and that it is principally these which acquire those considerable dimensions spoken of above, tending also to reach the surface, and to become pediculated. Others, on the contrary, with less tendency to increased volume, acquire rapidly a greater consistence: thus it appears that the smallest are those which harden most rapidly, or it may be said that the early induration checks all further increase. The condensation of the tumor is not so gradual as to present all its parts, cartilaginous or osseous, simultaneously: ossification sometimes begins at the centre, though more generally in a great variety of parts."*

These changes take place somewhat irregularly, so that it is not unusual to find different portions of a tumor in different stages of progress. Some parts will be found soft and fleshy, others cartilaginous, and others again will present calcareous particles.

These calcareous particles are generally deposited in the more central portion of the tumor; but they have been found on the external surface, forming a complete shell.

It is generally found that the smaller tumors are the more advanced.

They are most frequently solid, but examples of hollow ones are on record.

In a very few instances, inflammation has taken place in the covering of the tumor, and superficial erosions or ulcerations have followed; but as a general rule it may be stated, that fibrous or fibro-cartilaginous tumors of the uterus are not liable to ulceration.

229. *Causes.*—The causes are extremely obscure, and probably are to be found in the temperament of the patient, her age, and the anatomical peculiarities of the uterus.

They are most frequent in persons of the lymphatic temperament, and in those who have passed the middle age.

Women who have never borne children are as obnoxious to them as those who have been mothers.

De Haen supposes that contusion may be a predisposing cause of these morbid growths.

230. *Symptoms.*— As it is extremely rare to find the tumors attacked by inflammation or ulceration, the symptoms are either mechanical,

and Surg. Journal, vol. ii. p. 22. Waller's edit. of Denman, p. 80. Burn's Midwifery, p. 110.

* Boivin and Dugès. Diseases of the Uterus, &c. p. 181.

or owing to the interruption of the uterine functions,* or to the sympathies excited in distant organs.

The patient will complain, in most cases, of a weight in the pelvis, of bearing down, and aching in the loins.

If the tumor be large, inconvenient pressure may be made upon the bladder or rectum, impeding the evacuation of their contents, at the same time that the desire to void urine or fæces is distressingly frequent. Cramps in the thighs and legs may occur, or the lower extremities may become œdematous.†

If the tumor be large, and situated near the fundus on the outside, it may give rise to retroversion of the womb. A case of this kind was admitted into the Meath Hospital two years ago.

The presence of these tumors very frequently interferes with the menstrual function. In many cases I have known it to become very irregular, and in several it was altogether suppressed. Lee says that menorrhagia [illegible] occasionally [illegible].

Hemorrhage very rarely occurs so long as the tumor is not pedunculated, although we occasionally meet with it.‡

Further, although [illegible] utero-gestation is [illegible] frequently interrupted [illegible] month, and about [illegible] the uterus [illegible]

Dr. [illegible] — "A tumor imbedded within the proper tissue of the uterus, [illegible] the fallopian tube does not [illegible] impregnation, [illegible] are frequently combined. In the unimpregnated state, the existence of a tumor of moderate dimensions may not [illegible] be suspected; but when associated with pregnancy, the increase it then undergoes will probably lead to its detection. It either remains tranquil throughout pregnancy, [illegible] notice, or the passive state merges into sub-acute inflammation, the substance being painful when examined with the hand, or subjected to accidental pressure. The constitution participates in the excitement, as denoted by deranged gastric and intestinal functions, increased frequency of pulse, and more or less emaciation. These symptoms soon yield to judicious treatment, comprising the application of leeches, the recumbent posture (reposing on the back, or the side opposite to the tumors,) the moderate use of anodynes, the regulation of the bowels by very mild means, the warm hip-bath, and a spare, unirritating diet. In subsequent pregnancies, the tumor

* Denman's Midwifery, p. 80. Clarke on Diseases of Females.

† Lancet, Mar. 30, 1839, p. 58.

‡ Archives Gen. de Méd., Oct. 1839, p. 193. Ashwell, Guy's Hospital Reports, No. 6, p. 137.

rarely enlarges in the same ratio, and occasions but little comparative inconvenience."*

Lastly, if the labor come on at the full term, parturition may be rendered difficult, and there is danger of flooding, owing to the incomplete contraction of the uterus.†

M. Forget, who has published a valuable paper on this disease, arrives at the following conclusions: "1, that these fibrous tumors are no more an obstacle to fecundation than uterine polypi; 2, that they are not a necessary cause of abortion—that pregnancy may run through all its phases even though they are present, and that when abortion is the result, the time at which it takes place may present a certain coincidence with the position in the uterus which the tumor occupies. Bearing in mind the mode of development of the uterus during pregnancy, it is reasonable to suppose that if these bodies occupy the fundus, or the whole of the superior segment of the uterus, abortion will happen in the early months; and that if it is the lower part of the uterus which is affected, abortion will not ensue until later. Lastly, observation shows that in general, the danger arising from these tumors does not commence until parturition sets in; it is frequently followed by hæmorrhage, which is often speedily fatal."‡

Dr. Eldredge relates a case, in which a fibrous tumor weighing two pounds, which had neither interfered with pregnancy nor labor, was expelled thirty-eight days after delivery.§

The natural mucus is considerably increased in quantity, but unaltered in quality.

In some rare cases, where the uterus has been much distended, the mammary sympathies have been much excited, and the breasts have swollen.

It is very rare indeed that there is any constitutional disturbance, except perhaps as secondary to the functional derangement. There may be some degree of emaciation.

If the patient be thin, a careful manipulation of the abdomen may detect a tumor in the region of the uterus, and we may thus sometimes estimate its size and density. When the tumor is situated in the lower part of the uterus, a vaginal examination‖ will reveal its situation, size, and density. We shall find it covered by a

* Facts and Cases in Obstetric Medicine, p. 132.

† Such cases occurred to Mad. Boivin, Chaussier, and D'Outrepont. See Bulletin de la Faculté de Med., Feb. 1823, and the Archives Gen. de Med., May, 1830.

‡ Bull. de Therapeutique, April, 1846. Ranking's Abstract, vol. iv. p. 182.

§ Boston Med. and Surgical Journal, Feb. 2, 1848.

‖ Dr. Clarke says (vol. i. p. 274,) "If an examination be made, a hard, large, resisting tumor may be felt; but the os uteri will have

smooth membrane, without any breach of surface, and insensible to pressure.

If the two modes of examination be conjoined, we shall perceive the identity of the uterine enlargement, since by depressing the tumor felt in the abdomen, a shock will be communicated to the finger in the vagina.

The growth of these tumors is extremely slow: months may elapse without apparent increase, and years without the slightest inconvenience.

Whilst speaking of their freedom from ulceration, &c. generally, it must be mentioned that the investing membrane has occasionally been attacked with inflammation, without the participation of the new structure; two cases of which I have lately seen, where the inflammation spread to the peritoneum; and also that other and more formidable diseases may co-exist.

Sir C. Clarke mentions a case where corroding ulcer of the uterus and dropsy of the ovary were superadded to fibrous tumors.

Dr. M. Hall relates a case where fibrous tumors, co-existing with pregnancy, were attacked by inflammation.*

231. *Diagnosis.*—1. *From pregnancy.* Although the sympathetic irritation of the breasts and tumor in the uterine region, &c. may render the case doubtful at first, yet a little further investigation, by showing the absence of all the other "signs," will prevent any mistake.

2. *From congestion and induration.*—Fibrous tumors are generally insensible, well-defined, and hard: the uterus, in a state of congestion, is very sensitive, the swelling is diffused, and the tissue not particularly firm.

In some cases, however, the tumor is covered more or less by the uterine fibres, which are not insensible, or its proper covering may be inflamed and tender, which will require more care in the diagnosis. When the tumor is not situated near the cervix, its defined form and prominence are very characteristic.

3. *From scirrhus or carcinoma*, by the more partial and better defined character of the tumor; occasionally by its greater volume; by the absence of pain, hæmorrhage, and sensibility.

4. *From polypus uteri.* There will be little or no difficulty in distinguishing these two diseases, if the fibrous tumor be situated in the parietes of the upper part of the uterus, by its defined shape and prominence; but when it is near the cervix, it may easily be mistaken for a polypus not yet expelled, especially if there be hæmorrhage. It

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undergone no change; the opening will not gape as in carcinoma; neither will the patient complain of pain when the tumor is pressed upon."

* Principles of Diagnosis, 2nd edit. p. 307.

should be also remembered, that a fibrous tumor, at this part especially, is convertible (by a gradual process) into a polypus. If the finger can be introduced through the os uteri, we may perhaps be able to discern the character of the tumor; and the absence of expulsive efforts, after the disease has lasted some time, will be additional evidence in favor of its being the disease under consideration; but it must be confessed that the diagnosis is not an easy one.*

5. *From ovarian disease*, by a conjoined abdominal and vaginal examination, establishing the identity of the enlargement; no depression is felt by the finger in the vagina on pressure of the abdominal tumor, where the latter is an enlargement of the ovary. There is also more hardness, less mobility, and less constitutional irritation.

232. *Treatment.*—If the health be undisturbed, and if the size of the tumor be not such as to impede the functions of some neighbouring organ, nothing need be attempted in the way of medical treatment.

The patient should be careful of incurring any risk of inflammation from injury, &c.; and all reasonable attention should be paid to the general health. Symptoms may be met as they arise, and the principal mechanical inconvenience will be avoided, by securing the regular evacuation of the rectum and bladder. If catheterism be necessary, a little management will be required in the introduction of the instrument. An elastic gum male catheter is the best, both from its length and flexibility. It will often be necessary to have the stilette very much curved at the end.

The cramps may sometimes be relieved by a change of posture; and, if possible, it may be well to adopt Sir C. Clarke's suggestion, and push the tumor above the brim of the pelvis.†

If there be any indication of congestion or local irritation, a few ounces of blood may be taken by cupping the loins, or by leeches to the vulva.

Relief has also been found from frictions of the abdomen with soap liniment and laudanum.

It will not be necessary to interfere with the vaginal discharge, unless it be very profuse; in which case, mild astringent injections will answer the purpose perfectly.

Hitherto our attention has been occupied by palliative measures alone; whether more than this can be effected may perhaps be a question. We know that such tumors have been absorbed sponta-

* If a polypus be enclosed in the cavity of the uterus, all the signs of fibrous tumor will be present, with hæmorrhages, but no special indication of polypus. In process of time, however, the polypus will be forced through the os uteri, and its progress indicated by the descent of the tumor, and the gradual obliteration of the cervix uteri.

† Diseases of Females, vol. i. p. 277.

neously;* and as we know also that certain medicines have the power of quickening absorption, it is not unreasonable to expect that a judicious administration of such may be followed by success. The two remedies upon which most reliance can be placed are mercurials in small doses, with frictions to the abdomen, or flying blisters and iodine. Well ascertained facts are extremely scarce. Some cases under my care seemed to have been benefited by the former plan; but as they were dispensary patients, that very circumstance caused them to cease their attendance, and I lost sight of them. Dr. Ashwell† has published some very interesting investigations into the effects of iodine upon uterine tumors, but their value is lessened by the extreme caution of the author in not defining the nature of the tumor.

The tumors were hard, and not ulcerated; some entirely disappeared, others nearly so. The iodine was given internally, and applied to the cervix by the finger, sponge, or whalebone, every night. The ointment is thus composed:

℞. Iodini puri ... gr. xv.
Potass. hydriod. ʒii.
Ung. cetacei. ... ℥ii. M.

The average time for resolution was from sixteen to eighteen weeks. In addition, benefit was derived from cupping the loins, mild unstimulating diet, gentle aperients, and narcotic injections into the vagina.

Dr. Ashwell's inferences from his cases are as follow:—

"First. The internal administration of iodine, and its use by inunction, in hard growths or tumors of the uterus, *is decidedly beneficial;* the advantage, if the remedy be judiciously employed, *being unattended by constitutional injury.*

"Secondly. In hard tumors of the walls, or cavity of the uterus, *resolution or disappearance is scarcely to be expected,* since the growths are adventitious or parasitic, and are not embedded in glandular structure. Here the prevention of further deposit—in other words, *the restraint of the lesion within its present limits, and the improvement of the general health*—will be the extent of the benefit derived.

"Thirdly. *Hard tumors of the cervix, and indurated puckering of the edges of the os (conditions which most frequently terminate in ulceration) may be melted down and cured by the iodine.*"

In some few cases tonics may be necessary.‡

* Clarke. Diseases of Females, vol. i. p. 276.

† Guy's Hospital Reports. Paper on hard tumors of the uterus, treated by iodine, by Dr. Ashwell."

‡ There are other collections which form in the walls of the uterus, but to which I have not thought it necessary to devote a separate

In some cases nature itself makes an effort at a radical cure; the outer covering of the tumor becomes thinner and thinner, until at length it is partially absorbed, or worn through; and a trifling uterine effort suffices to remove the tumor from its bed, and to place it as a foreign body in the uterus, from whence it is gradually expelled, as in Dr. Eldridge's case. Taking the hint from such an occurrence, Lisfranc, Simpson, and others have repeatedly succeeded in thus enucleating and removing these tumors. In general it is necessary that the tumor be of moderate size, that the layer covering its surface be thin, and that it be within reach. The layer may be divided with the finger nail, a scalpel, or by means of caustic; and then, by gentle manipulation with the points of the fingers, the tumor may be raised from its bed, and brought free into the uterine cavity. Professor Simpson has recently removed a tumor weighing several pounds, by enucleation; first destroying the outer layer, or a portion of it, by caustic potash, the patient being under the influence of chloroform; and then removing the tumor.

Dr. W. L. Atlee of Philadelphia, has performed a still more daring operation, for the removal of these tumors. In a case where the tumor was covered only by peritoneum, and filled up the pelvis and a great part of the abdomen, he made a large abdominal section, and removed the tumor. The patient recovered. I do not think, however, that the chances of success are worth the risk.

chapter, since the symptoms resulting (when they give rise to any) are the same as those just described.

The following extract from M. Duparcque's works refers to one of these morbid products:—

"The womb is occasionally the seat of tuberculous deposition, as well as of the more dense growths. There may, or may not, be a membrane surrounding the matter, which is sometimes very small in quantity; at others, collected into larger spheroidal tumors. When cut into, they present the usual transparent greyish appearance, more or less dense, without any vessels, and generally softer in the centre than at the circumference; commencing at the centre, this softening may extend to the circumference, and then the whole will have a caseous or puriform consistence; and if the resistance of the surrounding parts be inadequate, the sac will burst, and subsequently either cicatrize or ulcerate. It is only when this takes place, that any symptoms denote the presence of this deposition, otherwise it does not appear to interfere with the functions of menstruation or gestation."

CHAPTER XVI.

POLYPUS OF THE UTERUS.*

233. These morbid productions differ from those in the preceding chapter, not so much by a difference in structure as by their difference of form and situation, and the series of important symptoms thence resulting; and like the preceding, they are probably of much greater frequency than has been suspected.

Instead of being imbedded in the substance of the uterus, the tumor is attached to some part of it by a neck or pedicle, of a less diameter than the body of the polypus. They are generally round or oval, but are liable to alteration in form, owing to the pressure of the uterine parietes, or of the neighbouring parts.

In size they vary very much. They are found a little larger than a pea, producing serious effects, and occasionally of enormous magnitude. One was excised in the Meath Hospital some years ago, which was more than fourteen inches long, and four or five in diameter at the widest part. Many similar examples are mentioned by authors.†

Their color depends partly upon their vascularity, and partly upon their exposure to the air. Some are quite white, others reddish, and others dark brown. Blue veins may be observed on the surface.

They vary too in the part of the womb to which they are attached, some growing from the *fundus*, some from the *walls or inner surface of the cervix*, and others *from the rim of the os uteri*.

* Denman's Midwifery, p. 50. Burns' Midwifery, p. 123. Campbell's Midwifery, p. 454. Davis's Obstetric Medicine, vol. i. p. 599. Dewees, Diseases of Females, p. 280. Clarke, Diseases of Females, vol. i. p. 242. Blundell, Diseases of Women, p. 125. Cyclop. of Pract. Med. art. Pathology of the Uterus. Baillie's Morbid Anatomy, p. 384. Boivin and Dugès, Diseases of the Uterus, p. 192. Siebold's Frauenzimmerkrankheiten, vol. i. p. 685. Trans. of Med. Society, vol. v. p. 14. Med. Chir. Review, Oct. 1838, p. 615. Ashwell, Guy's Hospital Reports. Ingleby's Facts and Cases, and Lecture in Lancet, Feb. 8, 1840. Meigs, Females and their Diseases, p. 242. S. Lee on Tumors, &c. p. 58.

† Siebold saw one the size of a child's head.—*Frauenzimmerkrankheiten*, vol. i. p. 687.

See also G. M. Richter, Synopsis praxis medico-obstetriciæ Mosquæ, 110. 4. p. 115. Tab. 6. A. G. Richter's Medico-Chir. Biblioth. B. ix. p. 152.

"This distinction," says Dr. Gooch,* must not be lost sight of, for it is of practical consequence. In ascertaining the nature of the tumor, for the purpose of determining the propriety of removing it by an operation, the mode of its attachment is one of our chief guides; and, in this respect, what is true of polypus of the fundus is not true of polypus of the neck or lip. In polypus of the fundus, the stalk is completely encircled by the neck of the uterus; and if the finger can be introduced into the orifice, it passes easily round between the stalk of the polypus and the encircling neck. In polypus of the neck, the finger cannot be passed quite round the stalk; it may be passed partly round it, but it is stopped when it comes to that part where it is attached to the neck; the stalk is only *semi*-circled by the neck. In polypus of the orifice or lip, the stalk does not enter the orifice, but grows from the edge of it; it feels as if a portion of the lip were first prolonged into the stalk, and then enlarged into the body of the polypus." "When a polypus grows within the uterus, it dilates its cavity, neck, and orifice, as in pregnancy. Instead of the orifice, with the projecting part of the neck, forming a narrow chink in a firm thick nipple, it is a round space with thin edges, as in advanced pregnancy. In polypus of the neck and that of the lip, the projecting part of the uterus preserves more of its ordinary form and consistence."

It is not, however, at all its stages of growth, that polypus of the fundus, or of the walls and cervix, is so definite; at some early period, it is, of course, contained within the cavity of the uterus, and not within reach of the finger. The gradual obliteration of the neck, as recognised by repeated examinations, will be our main guide.

The expulsive force exerted by the uterus not unfrequently detaches the polypus altogether, and then we may find it expelled as a round tumor.

Polypus of the lip, too, does not necessarily grow by so defined and limited a pedicle from the rim of the os uteri; in the case of the very large one already mentioned, the whole of the posterior lip was involved; indeed it was impossible to point out the line of separation between the uterus and stalk of the polypus. Occasionally, we find more roots than one.†

234. *Pathology.*‡—The structure of the majority of polypi may be

* An account of the more important Diseases of Women, p. 251. I am sure it is unnecessary to apologize to the reader for the long extract I have given from the writings of one, who to accuracy of observation united so much elegance of expression.

† Denman's Midwifery, p. 50.

‡ Dr. Davis describes three varieties. 1. The vesicular. 2. The fibrous. 3. The muco-lymphatic or cellulo-fibrous.

referred to one of three species: 1. The glandular. 2. The cellular. 3. The fibrous.

1. *The glandular* polypus consists in an enlargement of one or more of the glandulæ nabothi in the canal of the cervix.* It is not unusual to find a cluster of these together, generally about the size of currants or grapes, suspended by very fine pedicles. In texture they are soft, exhibiting something like glandular flesh when cut into, and occasionally containing a very small quantity of mucilaginous fluid.

2. *The cellular* polypus is probably the least frequent of any.† It occurs singly, or in clusters of two or three; it is soft, and rough, lobulated, or divided into bundles of fibres. It is generally of a violet or yellowish color, and consists merely of cellular tissue, covered partially or wholly by membrane. It resembles nasal polypi very closely.

It possesses a much slighter connexion with the uterus than the other species, and is most frequently detached. Occasionally, the pedicle is greatly elongated, constituting what has been called by French writers "*Polypes à pendule.*"

Probably the sarcomatous polypi, described by several authors, were really composed of cellular tissue.

3. *The fibrous* polypus is in structure much the same as the fibrous tumor already described, varying in density in different polypi, and also in different parts of the same tumor. In some few cases they have been found hollow,‡ either empty or containing grumous blood, or gelatinous matter and hair, or fat with hair.§ The tumor is always

The reader may consult also F. L. Meissner Ueber die Polypen in den verschiedenen hollen des menslichen korpers, nebst einer kurzen geschichte der instrument und operationsarten. Leipzig, 1820.

* "A fourth variety of tumor of the uterus, to which the term polypus has also been applied by writers, is produced by a morbid enlargement of the glandulæ or ovulæ nabothi. One of these two bodies is sometimes converted into a cyst, as large as a walnut or even a hen's egg, and hangs by a slender peduncle from the cervix or lip of the os uteri. It is smooth and vascular, and contains in some instances a curdly matter, or yellow colored viscid fluid. The tumor produces great irritation, and gives rise to copious sanguineous and mucous discharges from the vagina." Lee's Paper in the Med. Chir. Trans. vol. xix. pp. 127, 128. Cruveilhier, Anat. Path. liv. 11. pl. 6.

† Clarke on Diseases of Females, vol. i. p. 244.

‡ Boivin and Dugès. Saviard, Obs. 36. Levret, Mem. de l'Acad. de Chir. t. 3. pp. 526, 527.

§ The following example is related by Mr. Langstaff, in the 17th vol. of the Medico-Chirurg. Trans., p. 63.

covered by the lining membrane of the uterus. As to the mode of its connexion with the uterus, it is sometimes united through the medium of cellular tissue, but much more frequently the tumor has originally been somewhat imbedded in the muscular fibres. When it increases in size, it distends the layer of uterine tissue covering it until it becomes very thin; and if the polypus still continue to increase, this thin layer gives way, and only partially covers that portion of the polypus nearest to the uterus. It is rare that some part of the stalk is not thus supplied with an additional covering, beside the uterine mucous membrane, and not seldom the whole tumor is thus circumstanced.*

With regard to the outer covering of polypi, Boivin and Dugès remark, "Dr. Breschet declares that he has continually observed polypi covered with a thin, smooth, glossy membrane. *(Dict. de Med.)* In other cases this membrane is distinct, fleshy, and becoming thinner and thinner towards the pedicle, in voluminous tumors; thicker, on the contrary, when the tumor is of moderate size; but in every case an evident continuation of the fleshy fibres of the organ in which the polypus originated, was distinctly formed of the interior layer of these fibres, forced inwards, and drawn to the surface of a fibrous body, originally situated in the substance of the parietes of the viscus. Lastly,

"Mrs. ——, aged 59, in whom, a few days previous to death, there was a large polypus in the uterus projecting into the vagina, died of hemorrhage, before a ligature was applied.

"*Dissection.* The body of the uterus and its parietes were much larger than natural, yet there were not any signs of carcinoma or fungus hematodes.

"A polypus had formed at the superior part of the fundus of the uterus, which seemed to have had its origin in the muscular coat; it had projected into the mucous surface, and proceeded along the cavity in the form of a large pedicle, nearly equal in size to its base; and the growth had passed through the os uteri into the vagina, where it had acquired the magnitude of a large peach, and assumed the appearance of a fungoid tumor.

"The mucous surface of the tumor in the vagina had been destroyed by ulcerative absorption; it was coated with coagulated blood, which appearance induced me to suppose that the hemorrhage had proceeded principally from this part, and not from the vessels belonging to the internal surface of the uterus. On cutting through the whole extent of the polypus, I found the cervix of a dense structure, exactly similar to that of the uterus; but to my astonishment, when the incision was extended through that part of it which had entered the vagina, I found in its centre grumous blood, contained in a dense cyst, surrounded by coagulated blood."

* Denman, p. 50.

in certain cases we have found this envelope soft, and have been inclined to attribute its production to an albuminous exudation, secreted by inflammation of the internal surface of the tumor, which had at the first occasioned the inflammation."*

This pathological fact has been perfectly established by the researches of Lee and others, and it affords the only explanation of some phenomena which follow now and then the application of a ligature; and perhaps also of the fact stated by Dr. Charles Johnson, that, contrary to common experience, polypi are not always insensible.†

The polypus is said to grow occasionally from the mucous membrane of the uterus only.

With regard to the circulation in these morbid growths, it cannot be very active, as they are very scantily supplied with vessels generally, though sometimes veins may be discovered near the surface. In Saviard's case, there were two small arteries and two veins. In the Ancien Journal de Med. (tom. 29, 1786), a case is related where two arteries and a vein were detected in the pedicle of a polypus. In a case related by Vacoussain, a distinct pulsation was perceived in the pedicle; and Heming mentions that there is a preparation in the museum of Bartholomew's Hospital, which exhibits the injection of a polypus from the uterus.‡ These would appear to be the exceptions, however, rather than the rule. I have examined a number of polypi, large and small, both before and after excision, and I have never been able to detect pulsation in the pedicle, or the mouths of large vessels.

It is extremely difficult to explain, on pathological principles, the occurrence of the alarming hemorrhages which accompany polypus uteri; it is impossible to attribute their source to the vessels of the polypus, since the existence of such can seldom be ascertained; and besides, the floodings are as severe from small as from large polypi.

* Hemming's Trans. p. 196.

† "It is said that an inverted uterus is sensible to the touch, while polypi, on the contrary, are void of feeling. This can never be an accurate mode of forming a diagnosis, as we can only judge of the sensibility of the tumor by the expressions of the patient, which are regulated more by disposition than by the extent of her sufferings. I lately attended a lady with uterine polypus, and had I judged by the complaints of my patient, I should have pronounced the polypus to be more sensible than an inverted uterus usually is." Dr. Johnson's "Cases in which a ligature was applied to the uterus."—*Dublin Hospital Reports*, vol. 3. Dupuytren's Leçons Orales, vol. iii. p. 459. Brown. Dublin Jour. Jan. 1838.

‡ See "Cases of polypus uteri, with remarks by Dr. Ashwell," in the London Medical and Surgical Journal for June 24, 1837.

After stating Dr. Gooch's opinion, that the source of hemorrhage is the surface of the excrescence, and not the lining membrane of the uterus, Dr. Hamilton observes, "But the experience of the author leads him to entertain a very different opinion on this subject; for, in the *first place*, in no instance to which he has been called has there been any bloody discharge from the surface of the polypus, notwithstanding any liberty he might have taken in pressing upon it or in attempting to twirl it round.

"2ndly. He has seen several cases, where frightful hemorrhagy was apparently produced by an excrescence not larger than a filbert, attached to the inner border of the os uteri, and having a smooth polished surface.

"3rdly. He witnessed upon one occasion a case of fatal uterine hemorrhagy, three weeks after delivery, where the only apparent cause was a polypus excrescence, not larger than a horse-bean, situated upon the internal posterior surface of the uterus, about three inches above the orifice.

"The author is therefore inclined to explain the cessation of hemorrhagy after the application of the ligature round the excrescence, upon a very different principle from that adopted by Dr. Gooch. He presumes that when the tumor is in a state of growth, there must be a certain unusual determination of blood to the vessels which nourish it; but this cannot take place without an increased flow also being directed to the uterine vessels. Indeed there is perfect evidence of this, for the uterus keeps pace in increase of size with that of the tumor.

"Now, if there be an increased determination to the uterine vessels, such is their texture, that very slight circumstances must produce a discharge from them."*

Dr. Oldham† and Mr. Safford Lee consider that "the principal source of hemorrhage in tumors of a polypoid character, is not from their own vessels, but from their investing vascular membrane, and from the enlarged vessels, principally veins, of the mucous membrane itself; whereas, in other polypi, we shall find proper vessels connected with their structure. When these tumors are covered with a layer of muscular tissue, they acquire another source of hemorrhage."‡

The color varies very much, being sometimes nearly white, sometimes flesh-color, marked by veins, and sometimes nearly brown. Dr. Gooch says,§ "Often as I have touched and removed a polypus, I never saw one in the living subject till Mr. Brodie operated on a case in St. George's Hospital, June 5, 1828. An attempt was made to

* Hamilton's Practical Observations, &c. pp. 43, 44.
† Guy's Hosp. Reports, vol. 2. second series.
‡ On Tumors of the Uterus, &c. p. 42.
§ Diseases of Women, p. 257.

draw the polypus out of the vagina before removing it with the knife, but the attempt failed, and the ligature was ultimately applied in the vagina with my instruments. Whilst this was going on, the orifice of the vagina was so far dilated as to expose the tumor to our view: it was of a pale flesh-color, mottled, or rather streaked with large blue veins, like the round balls of soap at the windows of the perfumers."

Perhaps another evidence of the slight vascularity of these pendulous tumors is afforded by the rarity of morbid changes on their surface: they are seldom or never attacked by inflammation or ulceration, and they never degenerate into malignant disease.

235. *Causes.*—They are said to occur most frequently in persons living in low and damp situations, in those of lymphatic temperament, and in those who follow sedentary occupations.

As they have been observed to occur sometimes after abortion, it has been conjectured that a clot of fibrine may have been retained in the uterus, and have become organised.

By some they have been supposed to be nothing more than enlarged lymphatic glands.*

They are not common before the middle age,† but are equally frequent in single and married females. Although probably we must agree with Sir C. Clarke, that the exciting cause is at present unknown, we may certainly admit with others, that some irritation, or perhaps a low degree of inflammation, seems to be necessary for their production

236. *Symptoms.*—At an early stage, both the local and general symptoms are extremely slight and undecided, but when the disease is more advanced, they assume a distinct and formidable character. They may be divided into those which are, strictly speaking, pathological, and those which are merely mechanical; the former are rarely absent, let the polypus be ever so small; the latter are never present, except when the polypus exceeds a certain size.

Amongst the former, the most important by far is the excessive loss of blood. Hemorrhages occur repeatedly, but irregularly as to time

* See Davis's Obstetric Med. vol. ii. p. 620.

† Malgaigne has given a table of the ages of 51 females in whom polypi were found, collected from the works of Levret, Herbiniaux, Roux, Leblanc, and the theses of the Faculty. There were—

4	women from	26 to 30	years of age.
20	do.	30 to 40	do.
16	do.	40 to 50	do.
4	do.	50 to 60	do.
3	do.	60 to 70	do.
4	do.	70 to 74	do.

Des Polypes Uterines. Paris, 1833.

and quantity. The quantity lost is, in many instances, sufficient to blanch the surface of the body, and even the lips, and to induce all the consequences of anemia. The appetite becomes impaired; the bowels relaxed; œdema of the extremities occurs, &c., and the patient is reduced to the greatest extremity. The attack is at first mistaken for excessive menstruation, and thus advice is not sought until the constitution has severely suffered. In amount of loss, the disease goes on ever increasing. The blood may be discharged in a fluid state, without any smell, or it may come away in clots, some of them being accurate moulds of the polypus to which they have been applied,* and when retained long in the vagina, giving forth a putrid odour, calculated to lead to a wrong diagnosis. There is as much hemorrhage in many cases, where the polypus is not larger than a filbert, as where it is the size of a pear: indeed it would appear that there is sometimes less hemorrhage with very large polypi than with smaller ones. With the very large one removed by Mr. Porter at the Meath Hospital, there had been no 'loss' for a considerable time previously.

After the removal of the polypus, the hemorrhage ceases immediately and entirely.

As might be expected, menstruation is rendered very uncertain as to the period of recurrence, and irregular as to the amount of secretion.

During the intervals, there is generally, but not always, a leucorrhœal discharge in considerable quantity; it may be simply an increase of the natural mucus, or there may be a constant draining of a fœtid, ill-colored fluid from the vagina. According to Denman,† it may be serous, mucous, sanious, or sanguineous.

Another symptom of very constant occurrence is frequent vomiting; this is doubtless consequent upon the loss of blood, and partly perhaps upon the expulsive efforts of the uterus, or dragging down of the polypus.

The dyspeptic symptoms, palpitation, emaciation, œdema, and bloodlessness, I have already noticed as the result of the hemorrhages.

The patient also complains of a weight in the pelvis, and pressure about the vulva; of a dragging sensation about the loins and groins, of aching in the back, and weariness. Occasionally, there are regular bearing down pains, which recur until the polypus is detruded from the uterine cavity. Sometimes their violence breaks the stalk, and then the polypus is altogether expelled. It is worthy of remark, that the portion or root of the polypus left behind in these cases does not originate another tumor.

When the tumor is large, there may be pressure upon the bladder

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* See Hamilton's Observations, p. 14.

† Midwifery, p. 50.

or rectum, at once exciting desire for the evacuation of those viscera, and impeding the performance.*

237. The presence of a small polypus does not prevent conception, although it renders the continuance of utero-gestation very doubtful, inasmuch as abortion is very frequently caused.† When a very large tumor descends into the cavity of the pelvis, it may offer a serious obstacle to delivery, and require instant removal; and when contained in the cavity of the uterus, it may be even more detrimental, not by impeding delivery, but by preventing the subsequent contraction, and so giving rise to dangerous, or even fatal flooding. Such a case occurred to me in dispensary practice,‡ some years ago. The patient, after a natural labour, appeared for a while to be going on well. In a short time, however, flooding came on, resisting the prompt application of all the usual means for arresting uterine hemorrhage, and in eight or ten hours the patient died. Upon examining the uterus after death, there was found a large cellular polypus depending from the fundus, and which, it was evident, had prevented the due contraction of the uterus. No vessel could be detected in the polypus. My friend, Dr. Radford of Manchester, informs me that he has met with a case very similar. I was called to a second case, closely resembling the one just related, only that the flooding did not come on till ten days after labor. The uterus could be felt larger than usual above the pubis, until its contractions forced the polypus to the os uteri, where it could be distinctly felt. We succeeded in arresting the hemorrhage; and afterwards, when we would have tied the polypus, it was beyond reach, though the end could be felt. No further hemorrhage occurred, and the patient recovered her usual health.

Cruveilhier says,§ that metritis after delivery has arisen from the presence of these tumors. Polypus has been known to occasion prolapse of the womb;‖ or even inversion. Denman,¶ Heaviside, Hamil-

* See Denman, Burns, Clarke, Hamilton, Davis, &c.

† Frauenzimmerkrankheiten, vol. i. p. 700. Stark's Archiv. für die Geburtshülfe, Frauenzimmer und Kinderkrankheiten, &c. B. I. St. i. p. 130. Jena, 1798. Siebold's Journal für Geburtshülfe, vol. i. p. 971. Hanck. Wochenschrift für die ges. Heilkunde, June, 1837.

‡ Dublin Journal, vol. v. p. 251.

§ Anat. Path. liv. 15.

‖ Ruysch's Observ. 6. p. 24. Med. Comment. vol iv. p. 228. Levret's Essay. Davis's Obstetric Medicine, vol. ii. p. 617. Siebold's Journal, vol. viii. p. 696.

¶ Denman's Midwifery, case 2, pp. 56, 60. Lee's paper. Davis's Obstet. Med. vol. ii. p. 618.

"When polypus of the fundus descends into the vagina, the stalk

ton of Glasgow, Higgins, Pierson, &c. have recorded such cases: and I was permitted, through the kindness of Mr. Lynch, to examine a similar one under his care in Jervis-street hospital. The uterus is first distended by the *bulk* of the polypus, and then inverted by its *weight*, and the forcing downwards in the efforts of the uterus to expel its contents.

If our suspicions be excited, and a vaginal examination be made, (and no case of hemorrhage ought to be passed over without it,) we shall at once discover the polypus, provided it be not retained in the uterine cavity. A rounded, smooth, and insensible tumor will be discovered in the cavity of the pelvis, varying in density, and generally pear-shaped. The stalk may be traced up to or through the os uteri, if there be room in the pelvis to pass the finger. We are obliged to be contented with very scanty information, in cases where the polypus is so large as to fill the vagina.

When the polypus is very small, and still within the os uteri, there will be no perceptible enlargement of the cervix, and if the finger alone be used, it may escape our notice altogether, but it will easily be detected by the speculum. The larger polypi generally appear whitish, but those of the cervix are of a bright or deep red color.

After the polypus has been removed, or previously, if it be not too large, we may generally notice a superficial ulceration of that part of the cervix which has been in contact with the stalk of the polypus. This has been noticed by Bennet, Montgomery, and Whitehead, and is a point of some practical importance, as the cure will be incomplete unless the ulceration be remedied.

Should a large polypus be still within the uterus, we shall find that organ enlarged in proportion to the magnitude of the polypus; and the projection of the cervix modified according to the downward pressure of the tumor. If several successive examinations be made,

drags downwards that portion of the fundus to which it is attached, so that in this stage of the disease it is generally complicated with some partial inversion of the uterus. An inattention to this important fact has led to fatal consequences."—*Gooch. Diseases of Women*, p. 252.

"When a polypus, with a pedicle attached to the fundus uteri, suddenly falls downward, it occasions a sudden inversion of this viscus. In order to relieve as speedily as possible the great pain and danger of this case, the surgeon must tie the root of the polypus as soon and as firmly as he can, and pass the ligature, by means of a needle, through the pedicle, before the place where it is tied, allowing the ends afterwards to hang down for some length; then the polypus is to be amputated below the ligature, and the uterus immediately reduced."—*Cooper's Surgical Dictionary*, p. 962.

we may feel the cervix withdrawn by degrees, until the termination of the vagina shall be marked only by the dilating os uteri, just as we find it towards the latter end of pregnancy.

If the polypus be small, and still within the uterus, the only mode of ascertaining its presence is by dilating the cervix, as advised by Prof. Simpson,* by means of sponge-tents, until the finger can be passed up into the cavity. This, however, should only be done in those cases where we have good reasons for suspecting their presence, such as repeated irregular hemorrhage without congestion, uterine discharge, &c.

Dr. Montgomery has published a valuable paper on this subject,† containing the results of his experience, and I feel that I cannot do better than lay before the reader his conclusions. These are, "1. That small polypi, or polypoid uterine excrescences, are of frequent occurrence. 2. That they are often not discernible by the touch alone, and so escape notice. 3. That they may even elude detection with the speculum, unless the instrument is capable of separating the lips of the os. 4. That they are a common cause of ulceration and menorrhagia, the cure of which requires, as a preliminary, the removal of the polypi. 5. That while thus, on the one hand, a small polypus may escape detection, there is, on the other hand, a peculiar condition of the anterior lip of the os uteri liable to be mistaken for a polypus, and requiring a long time for its removal. 6. That the very small polypus of the os uteri is seldom solitary; and in common with polypi of other kinds, is very often combined with other diseases of the uterus, especially with fibrous tumors. 7. That these small polypi of the os uteri, when occurring in women of advanced age, especially if they are of the vesicular kind, are often the precursors of a malignant form of disease. 8. That from polypus being very frequently accompanied by ulceration of the os and cervix uteri, and from its concomitant pain and structural alteration, the symptoms are occasionally mistaken for those of cancer; which error is most likely to be committed, if an examination should happen to be made just when a polypus of larger size is passing through, but still engaged in, and distending the os uteri. 9. That in cases of larger sized polypi, ligature is the means most generally eligible, as being safer than excision, though not so expeditious; its application having in general the immediate effect of restraining the morbid discharges, and ultimately curing the disease. 10. That polypi and polypoid growths, of small size, are best removed by torsion, or in some instances their destruction may be conveniently accomplished by caustic. 11. That with large polypi torsion is unsafe, and should not be attempted. 12. That even with one of small size and slender pedicle, excision is not free

* Edin. Monthly Journal, Jan. 1850.

† Dublin Journal of Medicine, Aug. 1846.

from risk of troublesome hemorrhage. 13. That in ordinary cases of benign polypus, when no other uterine disease exists, the removal of the tumor by ligature is, in a vast majority of instances, completely successful, even in apparently hopeless cases. 14. That in malignant growths, such as cauliflower excrescence, removal by ligature will sometimes effect a complete cure; and that when success is not so decided, much good may be done by the operation. 15. That the situation whence a polypus springs makes a great difference in the symptoms which it induces. A polypus of the lip of the os gives rise to fewer symptoms and less discharge, than one of smaller size springing from within the os uteri. 16. That fibrous tumors formed in the substance of the uterus may thence descend, pass through the os, and form an ordinary pediculated polypus in the vagina. 17. That in the unimpregnated uterus this change will be effected gradually and slowly, but that should pregnancy occur, expulsion of the tumor may take place rapidly, under the action of labor. 18. That a polypus of large size may make its first appearance immediately after delivery. Lastly, that the cure of long standing polypus, with copious discharge, is liable to be followed by a condition of system requiring to be followed by precautions against a determination to the head."

238. *Diagnosis.*—There are several diseases with which polypus uteri may be confounded, and from which it sometimes requires great care to distinguish it. The very small size of the polypus, or its being altogether within the cavity of the uterus, will add to the difficulty; and in many cases the flooding which accompanies it has been mistaken for menorrhagia.* It is quite necessary to make a careful examination, not only with the finger but with the speculum and uterine sound. It may be distinguished, 1. *From Pregnancy*, by the entire absence of the audible and sympathetic signs, by the gradual course of the disease, and by the repeated irregular hemorrhages.

2. *From vaginal hernia.* "Hernial protrusions of intestines into the vagina (says Dr. Davis) are for the most part exceedingly easily distinguished from polypi of that passage, by their elastic and otherwise characteristic feel; by their perfect sensibility to the touch, and especially to puncture or incision made by a pointed or edged instrument; by their being covered by a production of the mucous membrane of the vagina itself, which generally may be easily enough identified by its characteristic rugæ; by the peculiar crepitus of hernial tumors; by their occasional reducibleness of bulk by compression; and by their almost entire non-possession of the properties which more especially distinguish polypi."*

3. From *vaginal cystocele.* "Hernial protrusion of a part of the bladder into the vagina may be distinguished from a vaginal polypus,

* Obstetric Medicine, vol. ii. p. 622.

by the peculiarity of its feel, which is nearly equally soft and compressible, but not so elastic as a tumor formed by a protrusion of intestine; by a difficulty, and perhaps pain in voiding the contents of the bladder; by the tortuous direction of the urethra, ascertainable by the introduction of a flexible catheter; by the different sizes of the tumor during states of comparative fulness or vacuity of the bladder; and by its being visibly covered, as in the former case, by a production of the mucous membrane of the vagina."*

4. From *scirrhus and cancer uteri.* The severe pain which precedes ulceration in schirrhous uterus is absent in polypus, and although hemorrhages occur in both, yet in the former it is after ulceration has commenced, while in the latter no ulceration can be detected. When the pedicle of the polypus is within reach, it will render the diagnosis easy.

5. From *cauliflower excrescence,* by its greater smoothness and density, and by its not bleeding when touched.

6. From *prolapsus uteri.* In prolapsus, the os uteri is at the lower part of the tumor; and although there is something like an orifice in some polypi, yet the difference is easily detected by means of a probe or catheter. In polypus also the os uteri may generally be felt in the pelvis, a little lower than usual: in prolapsus the finger can only be introduced a short distance into the vagina. The majority of polypi are insensible, at least at a distance from the stalk, whilst the uterus is equally sensible throughout. The hemorrhages which accompany polypus are absent in prolapsus of the womb; and lastly, the uterus, when completely prolapsed, is very liable to ulcerate, and polypi are not.

7. From *inversion of the womb.* The history of inversion is very different: it generally occurs suddenly after labor, and is accompanied with collapse, hemorrhage, &c. Polypus is of slow growth, and though accompanied with hemorrhage, is not attended by collapse. Inversion may be gradual, but only when effected by the weight of a fibrous tumor or polypus; and in such cases, the presence of the exciting cause will elucidate the case. In inversion, the entrance of the finger is prevented by the reflected parietes of the vagina; in polypus, (if the bulk be not too great) it may be passed into the vagina, so as to detect the os uteri. The surface of an inverted uterus is rough; that of a polypus almost always smooth; and the sensibility is greater and more universal in inversion than in polypus.

239. *Prognosis.*—The prognosis must always be grave, so long as the polypus remains, on account of the severe floodings, and the dangerous consequences, both primary and secondary. If not removed, it may prove fatal by exhaustion, or it may give rise to prolapse or inversion;

* Davis's Obstetric Medicine, vol. ii. p. 622.

it may prevent conception, or cut short gestation; or, if the patient should carry her child to the full term, the polypus may offer an obstacle to delivery, or occasion fatal flooding afterward, by preventing the contraction of the uterus. After its removal, however, the patient in general recovers her health rapidly.

240. *Treatment.*—The first question to be determined in the treatment of any case, where we have reason to suspect the presence of a polypus, is, whether it be within reach or not. A vaginal examination will generally enlighten us on this point; but still there is a class of cases to which I have referred, where polypus does really exist, and yet the positive evidence thereof is very slight. In such cases, and in those where the polypus is too high for an operation, or too large to pass through the os uteri, our endeavours for a time must be directed to moderating the present evils, to supporting the constitution, and to promoting the descent of the polypus.*

Our first efforts should be to diminish the hemorrhages, by cold astringent injections, by plugging the vagina, by counter-irritation to the sacrum, &c., and by the internal use of astringent remedies. Some good may thus be done; although in most cases I have seen, the relief has been but partial; just sufficient, perhaps, to enable the patient to wait for the descent of the polypus with rather less risk than if nothing had been done. Food of the most nutritious quality may be allowed, but the benefit derived from much wine is doubtful; if given at all, it should be in moderate quantity. In order to hasten the expulsion of the polypus through the os uteri, it has been recommended to give ergot; and more especially, as even if there be no polypus, its effects in restraining the hemorrhage will be beneficial.†

The lobelia inflata has been given for the purpose of dilating the uterine orifice, and it is said successfully.‡

When the polypus is so large as to be with great difficulty forced through the os uteri, Boivin and Dugès recommend the free application of belladonna to the part, and Dupuytren the incision of the cervix. However, the necessity for either remedy is very rare, as the hemorrhage itself prepares the uterine fibres for dilatation.

If the polypus be within reach, our conduct must be much more decided. Nothing short of removal ought to be contemplated, as that alone will save the patient. There are three modes of removal, and of these the practitioner must select that which appears to him to be best adapted to the circumstances of each individual case.

1. Certain kinds of polypi may be twisted off. 2. A ligature may

* Arnal. Lancette Franç. April, 1839.

† Burns' Midwifery, p. 118. Glasgow Medical Journal, vol. i. p. 411. A successful case is related in Med. Gazette, Dec. 2, 1837, p. 398.

‡ Ed. Journal, July, 1835.

be applied, and the polypus allowed to slough off. Or, 3. They may be excised. Siebold adds a fourth method, viz. by the actual cautery, and relates a case in which it succeeded perfectly.*

Of all these methods, the ligature is most frequently adopted, on account of its supposed greater safety.

241. 1. *Removal by torsion.* Judging from the fact that certain polypi have been separated by natural efforts,† by forcing down, or by various concussions of the body, it was naturally supposed that such as these would easily be removed without having recourse to a formidable operation.‡ It is only with the cellular polypi that this can be done, and it is of course owing to their looseness of texture that it is possible. The mode of operating is simple enough: the polypus is to be seized with the finger and thumb, or with a pair of forceps suited to the purpose, and twisted gently round until the stalk breaks; it is then to be withdrawn.§ If it do not yield after a reasonable degree of torsion, or if the stalk be found too thick, it will be better to have recourse to either of the other methods of removal. No hemorrhage, I believe, ever followed the twisting off of a polypus; and the discharge which existed previously will cease. The only thing necessary to be done, besides attending to the general health, is to syringe out the vagina two or three times with mild astringent lotions.

242. 2. *Removal by ligature.* This mode, which is by no means of modern invention, has been by many, I believe I might say by most

* Frauenzimmerkrankheiten, vol. i. p. 709.

† Cruveilhier. Anat. Pathol. livr. 13.

‡ Osiander in Schmidt's Jahrbucher, April, 1839. p. 129.

§ Polypus Uteri removed by hand, by Jon. Toogood, Surgeon to Bridgewater Infirmary:

"June, 1830, I visited, with a gentleman of this place, a woman between 50 and 60, who had been suffering for a long time from violent hemorrhages from the uterus; and on making a careful examination, a polypus of very extraordinary size was discovered. It was proposed to pass a ligature around it, but the patient wished to defer it for a short time, and when the attempt was made, it was found impracticable, in consequence of the polypus having become so soft and yielding as to render it impossible to carry the ligature safely over its stem. As the patient's safety depended on the immediate removal, I insinuated my hand into the posterior part of the vagina, in the hope of being able to place a ligature around it, until I found the stalk between my fingers; I then twisted it off, and withdrew the largest polypus I ever saw; no hemorrhage or bad symptom followed, and in a few days she was quite well."—*Lancet*, August 4, 1838, p. 665.

Velpeau, Med. Operatoire, vol. iii. p. 645.

modern writers, considered as preferable to any other. Its peculiar advantage is, that it is a cautious method; it avoids all chance of hemorrhage, and is less formidable than cutting across a mass of unknown structure. It has its inconveniences, however, even beyond those arising from the difficulty of application: for, occasionally, the stalk evinces no disposition to separate, and in other cases, the irritation of the operation, added to the discharge from a semi-putrid mass, has been attended with very serious consequences.

The principle of the removal by ligature is easily explained: by gradually tightening it, the circulation in the polypus is interrupted, and the vitality destroyed; and, in accordance with a known law, an effort is immediately made for its separation from the living parts.

Experience has taught us, that the ligature may be applied on any part of the stalk, and with an equally good effect; for the part which remains, instead of being prolonged into a fresh polypus, invariably sloughs away.

It has even been successfully applied when the entire polypus was within the os uteri.*

If the stalk be very thick, it will be advisable to use two ligatures instead of one, i. e. to pass a needle with a double ligature through the centre of the stalk, and then cutting away the needle, the two halves of the stalk will each be provided with a distinct ligature. This will hasten the separation very considerably.

A great variety of *ligatures* and *canulæ* have been proposed: a few only need be mentioned here.

Sir C. Clarke prefers waxed silk as a ligature. Dr. Hamilton† uses silver wire. "Silver wire," says the Doctor, "possesses two most important advantages over every other kind of ligature, for it can be applied over the largest polypi by the fingers alone, without any of the complicated mechanical contrivances which have been proposed; and it can be drawn down to the very surface of the excrescence, thereby precluding the chance of involving the uterus." It is added subsequently, that the silver must be pure, and drawn out to about "the thickness of the third string of a violin."

Others have used catgut; others, again, silk wrapped around with fine wire. Mr. D. H. Walne‡ has recently recommended whip-cord, from having observed that, when moistened, it increases in thickness, and diminishes very much in length; thus, as he very ingeniously observes, a ligature of this substance, instead of becoming looser after its application, will tighten itself considerably.

Any ligature will answer, however, provided only that it is strong

* Velpeau, Med. Operatoire, vol. iii. p. 549.

† Practical Observations, pp. 65, 66.

‡ Medical Gazette for July 16, 1836.

enough, and not too fine. I have used, or seen used, all the kinds I have mentioned, and with equal success.

248. The canula in most frequent use is probably the one invented, or rather perfected by Levret; it consists of two tubes soldered together laterally.

The ligature is passed through these, having the ends hanging out near the shank of the instrument, where there are two loops for the purpose of fastening the ligature when tightened. Herbinaux "modified the canulæ of Levret, rendering them moveable or fixed upon each other; with one of them, the noose was passed round the pedicle in order to tie it; it was then withdrawn, the two ends of the thread having been previously passed into that which was to remain, to enable the operator to tighten the ligature." "The instruments of Desault, adapted to the same purpose, are more complete, and more easily used; but his manipulation is perhaps too complicated. Dr. Bouchet de Lyons has substituted a string of perforated ivory beads, which receive the two ends of the noose; these are afterwards rolled round and attached to a small bar of ivory, situated externally.*

Carus describes an instrument resembling that of M. Bouchet. "The instrument," he says, "consists of a string of beads and two conducting rods made of whalebone, each of them nine inches long; the highest and lowest of the beads have each two holes; the two ends of the ligature are passed through the two holes of the former, then through the single hole in the intervening beads, and through the two holes of the last bead. The noose projecting from the highest bead, by means of the rods of whalebone, is pushed up to the back part of the root of the polypus, and then the two rods are carried round the root of the tumor, till the string of beads lies on the front of the polypus; the ends projecting from the two holes of the lower bead are then drawn (so as to carry the string of beads upwards), and then tied."†

"M. Paul Dubois has proposed a speculum provided with a double sheath, which seizes the polypus, and applies the ligature to its pedicle; but this instrument could not be conveyed into the uterus, even when that organ had been brought downward by pressure upon the hypogastrium; and could besides only grasp excrescences of moderate dimensions."‡

Dr. Blundell recommends *Hunter's polypus-needle* as one of the best. "This needle consists," he says, "of a stem of iron, which, though flexible, is nevertheless very stiff, so that you can give it what curve you please, and it will keep that curve; at one end of the stem,

* Boivin and Dugès, Dis. of the Uterus, &c. pp. 213, 214.
† Gynæcologie, vol. i. p. 327.
‡ Boivin and Dugès, Dis. of the Uterus, &c. p. 214.

there is a loop or eye; at the other end you have a handle, to which the ligature is to be fastened.'* A double loop of the ligature being left at the end of the stem, it may be passed over the polypus up to the pedicle; or, being passed once through the eye at the end of the stem, the ligature may be introduced, and with the aid of the finger be carried round the polypus; the loose end of the ligature is then to be passed through the 'eye,' and both ends are to be drawn tight."

Dr. Burns,† speaking of the occasional difficulty experienced in applying a ligature by means of Levret's double cannula, observes, "The process may be facilitated by employing a double cannula, but the tubes made to separate and unite at pleasure, by means of a connecting base or third piece, which can be adapted to them like a sheath."

And he refers to a similar instrument proposed by M. Cullerier, and described by M. Lefaucheux.‡ The description given by Dr. Burns answers very exactly to the improvement upon Niessen's cannula,§ made by the late Dr. Gooch; but I have no means of deciding to whom the point of priority is due, nor indeed whether Dr. Burns did himself use the improved instrument he has recommended.

After noticing the defects of Niessen's canula, and his own alterations, Dr. Gooch gives the following description of the instrument, and of his mode of using it.‖ "The instrument which I use for this purpose, and which in numerous cases has assisted me through the operation, consists of two silver tubes, each eight inches long, perfectly straight, separate from one another, and open at both ends. A long ligature, consisting of strong whip-cord, is to be passed up the one tube and down the other, and the two ends of the ligature hang out at the lower ends; the tubes are now to be placed side by side, and, guided by the finger, are to be passed up the vagina, along the polypus, till their upper ends reach that part of the stalk round which the ligature is to be applied; and now the tubes are to be separated, and, while one is fixed, the other is to be passed quite round the polypus, till it arrives again at its fellow-tube and touches it. It is obvious that a loop of the ligature will thus encircle the stalk. The two tubes are now to be joined, so as to make them form one instrument; for this purpose, two rings joined by their edges, and just

* Diseases of Women, p. 128.

† Midwifery, p. 118.

‡ Dissertation sur les Tumeurs circonscrites et indolentes du tissu cellulaire de la matrice et du vagin.

§ See Niessen's work, De polypis uteri et vaginæ, novoque ad eorum ligaturam instrumento. Gotting. 1785.

‖ On the more important diseases of Women, p. 269.

large enough to slip over the tubes, are to be passed up till they reach the upper ends of the tubes immovably. Two similar rings, connected with the upper by a long rod, are slipped over the lower ends of the tubes, so as to bind them in like manner; thus the tubes, which at the beginning of the operation were separate, are now fixed together as one instrument. By drawing the ends of the ligatures out at the lower external ends of the tubes, and then twisting and tying them on a part of the instrument which projects from the lower rings, the loop round the stalk is thereby tightened, and, like a silk thread round a wart, causes it to die and fall off."

Dr. Oke, of Southampton, has proposed a modification of Gooch's canula, by increasing the length and curving the extremities of the tubes, and, in place of the stem, substituting a third canula, into which the ligature is to be passed when the other tubes are withdrawn, and by means of which it is to be retained in situ, and tightened.*

M. Favrot adopts another method; he "takes two gum elastic catheters, and cuts off the end of each just above the eye; he then doubles a piece of silk of convenient length, and inserts the loop into one catheter, and the two ends into the other, and brings each extremity out of the lower end. This being done, the next step is to separate the two threads between the upper ends of the catheters, and to bring one down in the form of a loop, leaving the other, which is curved up to the pedicle of the tumor, as in the ordinary operation. The catheters or sounds, together with the interposed threads, are carried up to the base of the tumor, the thread forming the loop being held on each side with the respective catheters. This being done, the loop is allowed to glide over the tumor, the two catheters are transferred to one hand, and the two ends are drawn down so as to tighten the loop, which eventually passes entirely out of the sound which contained it, and encircles the pedicle."† Dr. Ranking has tried this plan, but did not find it any improvement upon the operation with Gooch's canula.

It is rather a delicate matter to point out one of these instruments as superior to the rest. Each is recommended, and has been successfully used by men of great experience; and it is probable that more depends upon the operator than upon the instrument. Upon the whole, my experience would lead me to prefer Levret's canula, (supposing I used one at all,) if the polypus be small; and Gooch's, if the polypus be above a moderate size. I quite agree with the translator of the work of Boivin and Dugès, that it is much more difficult to apply a ligature to small polypi than to large ones; and I think this, among others, an argument for their excision. In many

* Provincial Med. and Surg. Journ. Dec. 2, 1846.

† Revue Med. Chir. Jan. 1848. Ranking, p. 311.

cases I have found great advantage from the cautious use of Museux's forceps. By continued gentle traction, it is quite possible to draw the polypus within view; often to produce it externally, so as to apply the ligature without any difficulty; after which the forceps should be removed, and the polypus permitted to return into the pelvis. Latterly, I have found it more advantageous to excise the polypus below the ligature, after the latter has been tightly applied about twenty-four hours.

Great care must be taken that a portion of the os uteri be not included in the loop of the ligature, as it often occasions great suffering.

It has already been remarked, that in many cases the uterine fibres are continued for a certain distance upon the stalk of the polypus, and this at once explains the pain which occurs in some cases where the os uteri is intact, and which may require the ligature to be loosened, and afterwards tightened more gradually.

Having chosen the instrument we prefer, and arranged the ligature in the tubes properly,* the patient should be placed on her side or back, and the ligature carefully applied in the way described, when considering each kind of instrument. After the operation, the patient must be cautioned against sudden movements, as, if the canula were forced inwards, irreparable damage might be done. In order to avoid this, it is well to let the situation of the canula be anterior to the polypus, and, if necessary, it might be confined to the thigh by a piece of tape.

The frequency with which the ligature should be tightened will depend entirely upon there being any constitutional irritation or not; if not, every day will not be too frequent, as the sooner the polypus is removed the better; but if there be much local pain or general disturbance, we must be cautious; we may even have to relax the ligature; at all events, tightening every second or third day will be often enough.

After the first day, a syringe-full of tepid water, or infusion of camomile, should be thrown up the vagina each time the ligature is tightened; it will remove any offensive discharge, and will render the patient much more comfortable. After an interval, varying from six days to three weeks, the canula will be found loose in the vagina, and the stalk of the polypus severed. If the tumor be small, a finger will suffice to hook it out of the vagina; but if very large, there may be some difficulty, (especially in women who have not borne children,) and it may be necessary to use a hook or a pair of forceps. There are some cases, however, which are altogether indisposed to separate under the influence of a ligature. A case of this kind occurred some years ago in the Meath Hospital, and after remaining some time

* Velpeau. Med. Operat. vol. iii. p. 601.

without any progress from the application of the ligature, Mr. Porter removed it with the knife.*

During the time the ligature is applied, the patient must, of course, remain quiet in bed; the bowels must be kept free by enemata, and if there be much pain or sleeplessness, an opiate may be given. Injections of tepid water, alum and water, or infusion of camomile, should be used each day for some little time after the fall of the polypus. In most cases, not a drop of blood is discharged from the time the ligature is applied, and with care the patient almost always rapidly recovers from the state of anemia into which she had fallen, and from its secondary consequences.

There are exceptions, however, to this satisfactory convalescence, and patients have been known to die from "irritation and fever," before the separation of the polypus,† and of uterine phlebitis succeeding the operation. A case of the latter kind occurred in St. George's Hospital, under the care of Mr. Babington,‡ and a similar one to M. Blandin. Dupuytren met with eight or ten fatal cases, which presented all the symptoms which arise from the absorption of pus into the system.

244. *Removal by excision.* A due estimate of the inconvenience arising from the presence of a semi-putrid body in the vagina, during the time the process of separation by sloughing is going forward, with experience of the occasional difficulty of procuring separation by such means, together with the absence of large vessels in the majority of polypi, has led many eminent practitioners to substitute excision with the scissors or bistoury for ligature. Amongst these we find the names of Simson, Osiander, Hervez de Chegoin, Siebold, Mayer, Dupuytren, Arnott, Brown,§ &c. "Siebold and Mayer of Berlin only approve of the ligature in two cases. 1st. When an artery can be felt pulsating in the neck of the polypus. 2. When the neck of the tumor is so thick, that it probably contains large vessels. In all other examples, they prefer excision, on the ground of the difficulty of applying a ligature; and because when applied, the symptoms are apt to be more severe, and the annoyance greater than after excision. They operate with round-pointed scissors, curved like a Roman S both

* For a full and interesting account of the different instruments which have been employed for applying the ligature to uterine polypi, with illustrative plates, the reader is referred to Dr. Davis's Obstetric Med., vol. ii. p. 633, et seq.; Joerg, Krankheiten des Weibes, p. 369, et seq.; Siebold's Frauenzimmerkrankheiten, vol. i. p. 709, et seq.

† British and Foreign Review for July, 1837, p. 183.

‡ Cyclop. of Pract. Med., art. Pathology of the Uterus, vol. iv.

§ Dublin Journal, Jan. 1837, p. 360. Velpeau, Med. Operat. vol. iii. p. 609.

in the blades and handles, and from 9 to 10½ French inches in length. The division of the neck of the tumor is to be effected not all at once, but by repeated strokes of the instrument." "In Mayer's work, six cases are related in which polypi of the uterus were thus successfully removed by Siebold and himself."*

Siebold mentions the following as the circumstances which would call for excision of the polypus rather than the ligature. "1. When the polypus is either detruded from the uterus, or can be drawn down with a pair of forceps, or when it is attached to the os or cervix uteri, the stalk being thin, and there being little evidence of vascularity. 2. When the ligature has been applied for some time, and the polypus is sufficiently within reach, it may be excised below the ligature. 3. When the stalk of the polypus does not separate after the application of the ligature. 4. When the polypus has entailed an inversion of the uterus."†

Dupuytren removed 200 polypi in the course of his practice, and hemorrhage only occurred twice in so large a number. Velpeau has treated eight cases thus, without any hemorrhage at all. Arnott and Brodie have been equally fortunate.‡ It has been tried by some of the most eminent surgeons in this city, and I have in some instances adopted the plan myself, with perfect success.

In another which occurred to me since the publication of the first edition of this work, hemorrhage took place to an alarming extent, though the polypus was very small. Dubois lost more than one patient from this cause.§

The hemorrhage is the only objection, that I am aware of, to this method of cure. There is very little danger, however, as the stalk of the polypus rarely contains vessels of any size: should such be felt pulsating, it would, no doubt, be wiser either to trust to the ligature, or to a modification of the two; *i. e.* to tie the stalk of the polypus, and after twelve or twenty hours, cut off the polypus below the ligature, leaving that for some days as a security against hemorrhage.

There are other cases in which excision would be impossible or hazardous; as, for instance, when the polypus has only just descended through the os uteri. If doubtful, the ligature should be used.

The mode of operating is simple enough: the patient being placed on her back or side, the polypus must be seized either with the fingers, a hook, or a small pair of forceps, (those invented by Museux will answer very well,) and drawn without the external parts. Sometimes, though rarely, it can be forced down by the natural efforts. When

* Cooper's Surgical Dictionary, p. 962.
† Frauenzimmerkrankheiten, vol. i. p. 710.
‡ See Brit. and For. Review for July, 1837, p. 183.
§ Dict. des Sciences Med., art. Polypus.

protruded, it is to be seized by the operator, and divided close to the vulva by a stroke of a bistoury, or the clip of a pair of scissors; the former appears the best when the polypus is external.

When, however, the polypus is small, and the uterus high, we cannot draw it through the vaginal orifice, but must be contented to carry up a pair of blunt-pointed scissors, guided by one or more fingers, and to place the polypus between the blades, so as to cut it across. In these cases the speculum will sometimes be found of great service. It will be an advantage, if the blades of the scissors be curved at their extremities. If after the operation there be any fear of bleeding, an astringent injection may be thrown up the vagina, or a plug introduced. Of course, the patient must rest quietly for some days.

245. In conclusion, it may be well to recapitulate the respective advantages of the two plans. *By the ligature*, it is said,—1. You avoid the danger of hemorrhage. 2. You destroy the polypus more effectually.

By excision. 1. The tedious process of separation by sloughing is avoided. 2. There is less chance of constitutional irritation, or of local inflammation. 3. The danger of hemorrhage is slight; even if it should occur, it can be commanded by astringents, plugging, or the actual cautery.

246. In some of the cases I have mentioned, a modification of the treatment which has been detailed will be necessary.

If we could ascertain that the flooding after delivery depended upon a polypus in the womb, the best plan probably would be to introduce the hand, and twist it off. Judging from its cellular structure, this could have been easily done in the case which occurred to me.

Where the polypus has dragged down the uterus, it may be necessary, after the removal of the excrescence, to maintain that organ in its place by a pessary; at all events, astringent injections should be frequently used.

But if the uterus have been inverted by the weight of the polypus, as there can be little hope of reducing the inversion, and as this is a serious disease in itself, it may perhaps be deemed advisable to remove the whole. The polypus should be first separated, and then a ligature may be applied round the neck of the uterus, and it may either be left to slough off, or it may be amputated below the ligature.*

After the removal of a polypus, the mucous as well as the bloody discharge ceases: and in most cases, if the hemorrhage have not been enormous, the patient recovers her health speedily.

There are exceptions to this rule, however; for Dr. Hamilton†

* See the chapter on inversion.

† Practical Observations, p. 58.

states that he knew three patients die after the removal of the polyphs.

It will be the duty of the practitioner to apply himself sedulously to the mitigation or removal of the secondary symptoms which the loss of blood has entailed. The strength must be supported by broths, jellies, or by animal food, as the stomach may best bear it; wine should also be given, and either vegetable or mineral tonics. If there be diarrhœa, as not unfrequently happens, cretaceous mixture or powder, with kino, catechu, or opium, may be given.

Moderate exercise in the open air in a carriage, after some weeks, will be found highly advantageous.*

CHAPTER XVII.

CAULIFLOWER EXCRESCENCE.†

247. As THE disease now about to be described is well known by this name, which was given to it by Dr John Clarke,‡ and retained by his brother Sir C. Clarke,§ it would only occasion confusion to change it, although it is not the most appropriate.

The French authors, Levret and Herbiniaux, describe a malignant excrescence under the name "vivaces," and Doctor Gooch conceives

* Besides the works already quoted, the student may consult Goerz, diss. sistens novum ad polypos uteri instrumentum. Gotting. 1783. Contigli, Raccolta di opuscoli medico-pratici, vol. iii. p. 132. Zeitmann, diss. de signis et curatione polyporum uteri. Jenæ. 1799. Stark's Archiv. für die Geburtshülfe, B. I. St. ii. p. 157. Bernstein's Beschreibung eines neuen instrumem zur unterbindung der Mutterpolypen, in Loder's Journal of Surgery, B. 2, St. 4. Sauter's einfache und leichte methode zur unterbindung der Gebärmutterpolypen, in B. Von Siebold's Chiron, B. 2, St. 2, p. 420. Hauk, ueber Gebärmutterpolypen, in Rust's Magazine, 2nd and 3rd vol. Siebold's Journal für Geburtshülfe, &c. vol. vi. p. 310; vol. vii. pp. 641, 928; vol. viii. pp. 557, 718, 845; vol. x. pp. 466, 577.

† Denman's Midwifery, p. 75. Burn's Midwifery, p. 108. Davis's Obstetric Med. vol. ii. p. 786. Dewees, Diseases of Females, p. 296. Cyclop. of Pract. Med., art. Pathology of the Uterus.

‡ See his paper in the "Transactions of a Society for the Improvement of Medical and Surgical Knowledge," vol. iii., p. 321. Edin. Med. and Surg. Journal, vol. xviii. p. 480.

§ Diseases of Females, vol. ii. p. 57.

this to be nothing but the "cauliflower excrescence."* He considers it to be the disease which in other parts is called 'fungus hæmatodes.' Boivin and Dugès† object to this opinion, that these tumors are too solid, and not simply vascular. Mr. Heming seems inclined to take part with Dr. Gooch. Dr. Hooper‡ quarrels with the term given to the disease, and with some reason; but having described 'cephaloma,' he says that cauliflower excrescence is nothing but "polypoid cephaloma," in which he is surely wrong; at least, if we compare his descriptions with those of Sir C. Clarke, it is evident that they are describing two widely different diseases.

Without entering further into disputes about names, I shall endeavour to give an accurate account of the disease. It consists of a morbid growth from a part, or the whole, of the circumference of the os uteri, and, less frequently, from the surface of the uterine cavity. It is met with in females of all ages, married or unmarried, without regard apparently to temperament, habits, or residence. Still it is not so frequent as this description might lead us to expect. "When we see one case of cauliflower excrescence, we see ten, or even twenty, of common polypus, and fifty of carcinoma, or malignant ulcer of the uterus."§

248. The *causes* are very obscure: it cannot be considered as the

* "Compare the chief properties of these two excrescences, the one described by Herbiniaux and Levret, and the other by Dr. Clarke.

Viraces.	*Cauliflower Excrescence.*
A rough surface.	A rough surface.
Grows from a broad base.	Grows from a broad base.
A soft fungus.	A congeries of vessels.
If removed, grows again.	If removed, grows again.
The effect of death not observed.	After death or a ligature, shrinks to an empty skin.
Insensible.	Insensible.
Kills by frequent hemorrhages.	Kills by frequent hemorrhages.

"By comparing the above parallel columns, the reader will easily see that the essential properties of these two excrescences are almost identical, and that there is no more difference between them than what would naturally arise from two observers describing the same thing."—*Gooch on Diseases of Women*, p. 303.

† Diseases of the Uterus, p. 293.

‡ Morbid Anatomy of the Human Uterus, p. 16. See also Duparcque, Traitè theorique, &c. p. 85; Lisfranc, Mal. de l'Uterus, p. 364.

§ Gooch, Diseases of Women, p. 309.

result of injury to the cervix by concussion or by labor, since it occurs both in women who have never borne children, and in virgins.

Neither can it be considered as the result of excessive coition or of syphilis, for, though it does occur in prostitutes, it is not more frequent in them than in other females. Sir C. Clarke seems to think the disposition is connate, and that it only waits for a more abundant vascular circulation to become developed.

249. *Pathology.*—The tumor is highly vascular, and of a bright flesh color, with a slightly granulated surface, or a smooth surface, upon which are numerous small projections. The structure is tolerably firm; but if roughly handled, it bleeds. It is covered with a very fine membrane, which secretes the watery fluid which is discharged so copiously.

All attempts to inject the tumor from the uterus have failed; nevertheless, there can be but little doubt of the accuracy of Sir C. Clarke's opinion, that it really consists of a congeries of vessels; for, after death, or the application of a ligature, the tumor disappears, and nothing but a small mass of loose flocculi can be discovered. Out of several cases, Sir Charles Clarke only succeeded in obtaining one preparation. Generally speaking, it is attached to the circumference of the os uteri, more or less entirely. Clarke indeed never saw it otherwise, but Gooch and others have found it growing from different parts of the cavity. It is seldom discovered until it has attained some size, and it may go on increasing until it protrudes through the external orifice. Its bulk is a good deal affected by the dilatability of the vagina: when this canal is narrow and rigid, the morbid growth is restrained; but in married women who have borne children, and in whom the vagina is loose and distensible, it grows to a large size. The disease appears limited to the uterus; the vagina is found perfectly healthy. If it be removed, it grows again in a comparatively short time, and in this consists its malignancy.

If the speculum be used, we discover a tumor of varying size, composed of small irregular globules, collected into masses, projecting unequally, and of a bright red color. Some of the smaller granules possess a certain degree of transparency, as Dr. Montgomery has observed. The entire tumor is covered by a firm membrane, by which the watery discharge is secreted.

In some cases the tumor is more dense, and enough may be obtained after removal to serve for a preparation, and for the purposes of an examination. This increased density Dr. Montgomery believes to be "produced by the infiltration of blood and lymph into the cellular and laminated structure, which enters so largely into the constitution of these growths. In this condition, such portions of the morbid growth do not, and indeed cannot collapse, as they otherwise would when separated from its attachments; and I may observe, that it is only in this state that specimens of the disease can be preserved in a museum." Dr. Anderson of Glasgow has published a very minute exami-

nation of the structure of the cauliflower excrescence, to which I beg to refer my reader.*

Dr. Simpson states, "I submitted some very thin slices from the surface of the section of the tumor to a powerful microscope in the possession of Dr. John Reid: it was seen to be composed of a number of cells, arranged in some places in groups, in others in irregular lines. These cells contained each a large nucleus, and the nucleus enclosed several large nucleoli. It may be interesting to state, that none of the caudate or spindle-shaped bodies, described by Müller as often existing in morbid cephaloid structures, were seen in any section examined."†

Let me add an extract from Mr. Safford Lee's work on the intimate structure of these tumors. He says, "on examining a portion of the tumor taken away in Anderson's case, the granulations appeared to be covered with a fine membrane, producing a shining appearance, and small vessels were distinguished ramifying over it. When a portion was squeezed between the fingers, the substance became pulpy. Under the microscope, the lobules were found to be covered individually by epithelial scales, resembling those of the mucous membrane; and each was composed of nucleated cells, with here and there a blood-vessel ramifying in it, but the tumor was not apparently vascular. The edge of the lobules with epithelial scales appeared as if impacted one upon another; beneath which, from its circumference, where the cells were much compressed, to its centre, cells became gradually developed. There was no appearance of fibrous tissue, nor any of the caudate cells indicating cancer. This, then, was the result of a careful examination of a part of this tumor removed during life by Dr. Richard Quain and myself. The following is a description of a portion examined in the same way after death. When a piece of the tumor, the only remains of which was in small detached clusters, was taken and placed in water, it appeared to be made up of a number of villi, apparently attached to a central substance of more firm consistence. It was composed of nucleated cells of large size, some circular, some oval, and others elongated oval; these contained a quantity of granular matter, and a well-defined nucleus, which appeared to contain a cavity filled with a quantity of granular matter. The two together had the appearance of a cell within a cell, or a compound cell. These cells were connected by fine filaments like cellular filaments. From this examination we conclude that the tumor is composed entirely of cells, and that these are covered with an epithelial membrane; also, that it was a simple structure, and not malignant."‡

Dr. Renaud, however, has arrived at the conclusion, that the disease

* Dublin Journal, vol. xxvi. p. 1102.
† Edinb. Med. and Surg. Journal, 1841.
‡ On Tumors of the Uterus, &c. p. 84.

is a modification of encephaloid, consisting of tufts of pedunculated papillaries, the interstices of which are filled up with the cells proper to encephaloid products.*

Thus we find that there is still a doubt as to the character of these growths; whether their fatality depends, as Sir C. Clarke thought, upon their power of reproduction after removal, and the hemorrhage to which they give rise, or whether they are in themselves malignant.

The conclusion to which I have arrived is, that the primary morbid growth is not *per se* malignant, but that it may probably become the seat of malignant deposit. Further, I am inclined to think that the secondary growth, after the first has been removed, may be of a malignant encephaloid character; and this is borne out by several cases I have seen. I may add, that in two cases I saw lately, the cauliflower excrescence was accompanied or followed by what appeared to be a malignant tumor growing from the side of the pelvis, and which itself proved fatal in one, if not both cases.

250. *Symptoms.*—The first symptoms which attract the attention of the patient is an unusual moisture about the external parts, and which soon assumes the appearance of a copious watery discharge from the vagina.† This discharge sometimes becomes enormous, wetting a prodigious number of napkins in the course of the day, and acting as a drain on the patient's constitution.

But this is not all, nor indeed is the patient sufficiently alarmed to seek for medical advice, until this discharge is observed to be streaked with blood. By and bye, more profuse hemorrhages occur, even to an alarming extent, brought on by sexual intercourse, or by the evacuation of hardened fæces, or without apparent cause. An examination will also cause flooding. During the intervals of the hemorrhages, the watery discharge goes on, and the effect of both is a fearful inroad upon the constitution. Anemia, with all its secondary attacks, is the result. The stomach and bowels soon get disordered, the various symptoms of dyspepsia appear, the patient may become anasarcous, or effusion into some of the serous cavities may take place, and of this the patient generally dies.

Vomiting occurs occasionally, and temporary loss of vision has been noticed. As the progress of the disease is rapid after the setting in of the hemorrhages, and as the patient dies of loss of blood, or of its immediate consequences, and not of disease properly so called, very little emaciation takes place.

If a *vaginal* examination be made at any stage of the disease, a

* Med. Gazette, June 18, 1847.

† According to the extensive investigations of M. Marc d'Espine, a *watery* discharge is peculiar to the *uterus*, he having never met with it in all the cases of *vaginal* leucorrhœa he examined. This observation increases the value by limiting the frequency of the symptom.

tumor having the sensible characters already mentioned will be found in the vagina; and in most cases, its insertion into the lip of the os uteri can be traced. It communicates a feeling very like that occasioned by touching a portion of the placenta on its uterine surface. The examination does not give pain, as the tumor possesses no sensibility.

An examination with the *speculum* merely adds to our previous information a knowledge of the color of the tumor, which is a bright flesh red; and it more distinctly reveals the granulated surface.

251. *Diagnosis.*—"I do not believe that any man can tell infallibly by touch, whether a tumor in the vagina is a malignant excrescence, which is to grow again; or a benign one, which, if removed, will never return."

Although we may not altogether agree with Dr. Gooch in the impossibility of ever pronouncing a tumor non-malignant, there can be no doubt of the difficulty of pronouncing one to be malignant, and of the great caution necessary in coming to this conclusion. Our principle must be first to ascertain what it is not, (proceeding, as the French say, "*par voie d'exclusion,*") in order, at last, to arrive at its real character.

It may be generally distinguished—

1. *From fibrous tumors and polypus,* by its greater softness, by its rougher granulated surface, (they being most frequently smooth,) by its bleeding when touched, and by the absence of a pedicle.

2. *From the fungous surface of a cancer,* by the tumor being distinct, soft, and moveable, and by its insertion into the lip of the os uteri. The constitutional symptoms are those arising from anemia, and not from the irritative fever of cancer.

3. *From the edge of the placenta,* by the absence of the signs of pregnancy; but should pregnancy and cauliflower excrescence co-exist, the diagnosis might be very difficult. The state of the os uteri, and the locality of the placental souffle, might enable us to come to a just decision.

252. *Prognosis.*—From the severe floodings which recur at intervals, and from the obstinate reproduction of the tumor after excision, the prognosis is very grave; the disease almost always ending fatally. The prognosis is more favorable, according to Sir C. Clarke, when the tumor arises from only a part of the os uteri, than when it occupies the whole circumference.

Very few cases of cure are on record: Boivin and Dugès mention two that recovered after excision of the cervix; Dr. Montgomery one, and Dr. Simpson one. The case I treated by deep cauterization, after the removal of the excrescence by ligature, continued well two years after the operation, and may be so still, but I have not seen the patient lately.

253. *Treatment.*—It is very questionable whether the progress of the disease can be arrested, except by excision. Dr. Gooch evidently doubts this, but Sir C. Clarke says he succeeded in two cases by the

use of astringent injections. By way of derivative, he recommends cupping the loins, by which means, he says, the watery discharge will be diminished. This, however, should never be done when the patient is much exhausted, or when œdema is present. Benefit is also derived from sponging the loins and vulva with cold water, and from injections of cold water into the vagina and rectum. More good may be expected from the use of astringent injections,* but great care must be taken not to introduce the pipe of the syringe too far, as, if it come in contact with the excrescence, it may cause hemorrhage.

If the tumor fill the vagina, Sir C. Clarke suggests that the astringent lotion should be poured into the vagina, the patient lying on her back with the hips raised; or, if the excrescence have passed through the external orifice, lint dipped in the lotion must be kept constantly applied.

The patient must live altogether apart from her husband: she should constantly preserve the recumbent posture, and her diet must be mild and nutritious, without wine or stimulants. Mild laxatives should be given, so as to prevent the accumulation of hard fæces, the evacuation of which is frequently attended by a discharge of blood.

254. If, as is to be feared, this treatment do not succeed in diminishing the tumor, and arresting the hemorrhage, we have no resource but the ligature; nor is it an objection of any force, that the ex-

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* The following are the formulæ of some of the astringent injections recommended by Sir C. Clarke:—

"℞. Zinci sulphat. ʒiss.
Aquæ rosæ, ℥iv.
Aquæ distillat. ℥xvi. M.

℞. Aluminis, ʒiii.
Aquæ distill. ℥xv.
Mucil. Acaciæ, ℥i. M.

℞. Infus Lini. ℥xv.
Aluminis, ʒii.
Tinct. Kino. ʒi. M.

℞. Cupri Sulph. gr. x.
Aquæ flor. Sambuc.
Mist. Camph. ā ā ℥vi. M.

"Solutions of the mineral astringents in decoctions of astringent vegetables constitute applications of great power,—as

℞. Cort. granat. contus. ℥ss.
Aquæ distillat. ℥xiii. Coque per sextam partem horæ et cola, dein adde liquori colato aluminis ʒii.

crescence will grow again rapidly; we know that the patient must die if left alone, whereas the operation, if it do not cure, will at any rate retard the fatal event. Any of the ligatures I mentioned, when speaking of the removal of polypi, may be applied with either Levret's or Gooch's canula. Two or three days will suffice for the separation of the tumor. After this, it is usual to throw some astringent solution up to the os uteri, in order to check the disposition to reproduction. I have tried the free application of a strong caustic (muriate of antimony,) to the spot from which the tumor was removed, and with complete success. The use of the speculum enabled me to apply the caustic exactly, without the slightest injury to the neighbouring parts.

I am quite satisfied that the best plan is either to produce a deep eschar by caustics on the spot from which the tumor grew, or to include within the ligature a sufficient portion of the cervix uteri, as practised by Dr. Montgomery, or to remove the portion by the scissors, as in Mad. Boivin and Professor Simpson's cases. I prefer applying the ligature for twenty-four hours, and then excising just below it. The operation is very easy if the uterus be gently drawn down by Museux's forceps. Dr. Simpson placed the patient on her face, with her legs hanging down over the edge of the bed, for the greater safety and convenience of cutting from behind forwards. I found the ordinary obstetric position sufficiently convenient. For some time after the operation, astringent injections should be used, and caustic if necessary. Great care must also be taken to avoid every possible cause; local and general stimuli should be avoided, and the diet of the patient carefully arranged.

℞. Gallarum, ℥ss.
Aquæ distill. ℥xviii. coque ad ℥xvi.
Liquoris colati, ℥xvi et adde
Spirit. roris marini, ℥ss.
Aluminis, ʒiii. M.

℞. Decoct. querci, lb. i.
Tinct. Catechu, ℥ss.
Aluminis, ʒii.
Zinci sulph. ʒi. M."

Clarke on Diseases of Females, vol. ii. p. 101.

CHAPTER XVIII.

CORRODING ULCER OF THE UTERUS.*

255. When describing "Simple Ulceration of the Cervix Uteri," a reference was made to another species of ulceration, distinguished by its extent and malignancy, and which, on this ground, has been frequently confounded with cancer, from which it is essentially different. It has been noticed from time to time by different authors, but without any very clear comprehension of its peculiarities.

The name of "corroding ulcer of the uterus," was first applied to this form of malignant ulceration by Doctor John Clarke of London; and to him and to his brother, Sir C. Clarke, Bart., we are indebted for the best account we possess of it. Dr. Baillie has given a very succinct and accurate description of it. He says, "it is not unusual for an ulcer to be formed in the uterus, of a very malignant nature. This is most apt to happen to women at the middle period of life, or at a more advanced age; but it sometimes happens in women who may still be said to be young. The ulcer generally begins in the cervix uteri; and the uterus is at the same time somewhat harder and larger than in the natural state. It does not, however, grow to any considerable size. The ulcer spreads from the cervix to the fundus uteri, and it is not unusual to see the greater part of the fundus destroyed by it, and the rest changed into a tattered ulcerated mass. The ulceration is not always confined in its boundaries to the uterus, but sometimes spreads into the neighbouring parts, as the vagina, the bladder, and the rectum; making communication between them, and producing dreadful havoc."† We shall find, however, that there are some points which seem to have been passed over too lightly by these authors, and others which are scarcely consistent with more extended observation. The disease attacks females of the lymphatic temperament especially, and generally about the period of the cessation of the menses, or soon after. Sir C. M. Clarke says, that he "does not recollect having met with an instance of the disease before the age of forty;" I have, however, seen it at a much earlier period.

256. *Symptoms.*—It is frequently preceded by occasional pain or uneasiness in the pelvis, a sensation of heat internally, and by whites;

* Denman's Midwifery, p. 77. Burns' Midwifery, p. 106. Baillie's Morbid Anatomy, p. 380. Cyclopædia of Pract. Med., art. Pathology of the Uterus, vol. iv. p. 394.

† Wardrop's Ed. of Dr. Baillie's works, vol. ii. p. 323. See also Ruysch, Obs. 12. Davis's Obstetric Med. vol. ii. p. 745.

but in other cases there are no precursory symptoms; and the attention of the patient, and her medical attendant, is first directed to these organs by a profuse hemorrhage, which is often mistaken for an irregular recurrence of the menses. If we make an examination at this period, we discover ulceration of the cervix uteri to a greater or less extent, with a rough granular surface, which may be insensible to the touch, slightly tender, or very irritable and painful.* The situation, and direction of the ulceration will vary in different subjects. *The remaining portion of the uterus is scarcely at all enlarged, and the contents of the pelvis are free and moveable.*

The hemorrhage may cease for some time, but as the ulceration spreads, it will return at intervals through the whole course of the disease; less frequently, however, and in smaller quantity, towards the conclusion. It has appeared in some cases to relieve the pain for a short time, and to suspend, in a slight degree, the progress of the complaint.

During the interval of the 'shedding,' a profuse discharge takes place from the vagina, but of a totally different character from the whites which precede the attack. It is thin and ichorous, and of a very offensive odour;† its color varies from a light straw color to a dark brown; occasionally, but rarely, it resembles purulent matter.

Soon after the disease has developed itself, we find the patient complaining of weakness, weight, and pain in the back; the latter sometimes extending to the loins, or round the lower part of the abdomen. The character of the pain is by no means uniform: sometimes it is

* Sir C. M. Clarke observes, "when a finger introduced into the vagina is made to pass over the ulceration, the patient does not complain of pain; she does not suddenly shrink from pressure, as when carcinomatous ulceration is present; but if asked what sensation she experiences, she will commonly reply, that she has a sense of soreness." —*Clarke on Diseases of Females*, vol. ii. p. 195. That this is true of many cases, there is no question; but that there are exceptions, so marked as to negative the use of this sign as a guide in forming our diagnosis, is proved by cases which have occurred to myself; and, on the other hand, several authors have shown satisfactorily, that we may have true cancerous ulceration without pain or tenderness on examination per vaginam.

† It is worthy of notice, that this odour is very much less perceptible after death than before. I remember a case, where the peculiar fœtor was perceptible immediately on entering the hall-door of the house, and almost insupportable in the apartment of the patient, during her sickness; and yet when the uterus was removed from the pelvis, it had almost entirely lost the peculiar odour. Can it be that the odour is the result of a secretion of a fœtid gas from the ulcerated surface?

described as lancinating, resembling a knife running into the back; at others, burning like a hot iron. In a few of the cases that I have seen, no pain whatever was experienced from the commencement. The great weakness of the back, however, was present in all.

Of course, so grave an attack cannot occur without severely affecting the constitution. The patient becomes emaciated; the appetite diminishes; there is occasional sickness of stomach; the bowels are irregular; the pulse is quick and small; the skin becomes dry and sallow, and a low fever sets in. From this time the disease advances with variable rapidity; in some cases it makes rapid progress; in others, as Sir C. M. Clarke observes, it may continue for years without extinguishing life.

If we examine *per vaginam* occasionally during the progress, we shall find the ulceration extending either circularly, or on the anterior or posterior surface of the uterus, and at length, in the latter cases, penetrating the bladder or rectum.

By and bye, the discharge is augmented, the fever increases, and the patient loses all her flesh; the features are sharpened, and the eyes sunk; the skin dry, or perhaps moist and flabby; the appetite ceases; dyspepsia is constantly present; the bowels are constipated, and their evacuation causes severe pain. The distress of the patient is often increased by excoriation of the vulva, caused by the acrid discharge.

Ultimately the patient either sinks from exhustion, or is carried off by peritonitis, from the extension of the ulceration to that cavity, or by hemorrhage. The latter termination is, however, very rare.

257. A *post mortem* examination reveals clearly the nature and extent of the disease. The uterus is found more or less destroyed by ulceration, which sometimes extends itself circularly, so as to destroy the cervix and part of the body completely, leaving the remainder suspended by the ligaments, and unconnected with the vagina, except by the surrounding cellular tissue; in other cases, it attacks the anterior or posterior wall of the uterus only, with the neighbouring portion of the vagina, and the bladder or rectum. If the bladder be perforated, the vagina will be found more or less coated with matter deposited from the urine: if the communication be with the rectum, fæcal matter will be found in the vagina: I have never seen a case in which the bladder and rectum were both perforated. It is important to remark, that there is no deposition of new morbid matter either in the uterus itself, or in the neighbouring parts.* The portion of the uterus which remains undestroyed is slightly swollen and vascular.

Although, from the nature of the changes which have taken place, we do not perhaps discern indications of the presence of inflammation

* My own observations thus fully confirm Sir C. M. Clarke's remarks on this point. In vol. ii. p. 191, of his work, he says, "If

as the primary disease, we can scarcely avoid concluding such to have been the nature of the first attack; but what were its characteristic marks, or when it acquired its malignant character, it is difficult to say. Neither is it easy to explain why ulceration should attack that part of the uterus first, which possesses the lowest degree of organization;* or why the hemorrhages should be more frequent, whilst the ulceration occupies the least vascular portion of the organ.†

258. *Diagnosis.*—1. I have already alluded to the similarity of this disease to *cancerous ulceration.* Both commence about the same period—at the cessation of the menses; either may give rise to lancinating pain, to a sensation of burning, or to no pain at all; to hemorrhages; to offensive discharges; to emaciation; to fever, and both generally terminate fatally. How then are we to distinguish them? Sir C. M. Clarke lays great stress upon the character of the pain as a means of diagnosis: "It appears (he says) that pain of an intense and acute kind is not a character of the corroding ulcer of the os uteri;" and he states this as differing remarkably from the lancinating pain of cancerous ulceration, "which invariably attends that complaint." A reference to many cases of cancer uteri on record will show that the latter assumption is incorrect; and amongst the cases of corroding ulcer of which I have taken notes, I find that one had suffered no pain from the beginning of the attack; others complained of burning pain; and some of severe lancinating pain. We cannot therefore attach much value to this test; nor is the tenderness on examination more available. Nothing conclusive is to be gathered from the period at which the hemorrhages occur, nor from their extent. The other symptoms are too much alike in both diseases, to afford us any assistance. Speaking very generally, I am inclined to think that there is somewhat less amount of pain in corroding ulcer than in cancer uteri; that there is less febrile action; that the dyspepsia is less tormenting, and that the emaciation is not so excessive. But these are very slight differences in degree, and of very uncertain occurrence; they cannot, therefore, be depended upon.

the body of the patient be inspected after death, there will appear abundant evidences of the destructive process, but no hardness, no thickening, no deposit of new matter."

* See Bell's Anatomy, vol. iii.

† The comparative vascularity of different portions of the womb may be displayed, by making a vertical section either before menstruation, during menstruation, during gestation, or at the time of the cessation of the menses. At all these periods, very much fewer orifices of the divided vessels will be found in the cervix than in any part of the body: in aged females, indeed, it becomes nearly cartilaginous. In addition, it has been observed that no menstrual discharge is secreted by the membrane lining the neck of the uterus.

The true ground of diagnosis, and the marked distinction between these two formidable complaints, is discovered by a *vaginal* examination. In cancer uteri, there is extensive deposition into the cellular membrane and glands between the vagina and rectum, and between the vagina and bladder, as well as into the substance of the uterus itself, connecting them so as to form one large mass, and *rendering the whole immoveable:* the finger, on being introduced into the vagina, finds *very little space*, and no power of *moving the parts with which it comes in contact.* Whereas, in corroding ulcer, no deposition having taken place, *the uterus can be moved by gentle pressure*, and part of the pelvic contents having been destroyed by ulceration, *there is more space than usual in the cavity.*

In addition, the finger should be introduced into the rectum, and a very careful examination made of the condition of the vagina, and of the surrounding interspaces: as in a case I had recently an opportunity of seeing, through the kindness of my friend Surgeon Ferrall, of St. Vincent's Hospital, there was extensive carcinomatous deposition around the vagina and neck of the bladder, but not implicating the uterus, which was of the natural size, and moveable. This case illustrates the value of the physical signs I have insisted upon, whilst it impresses upon us the necessity for careful investigation, and shows the difficulties which are occasionally met with. It is, moreover, a rare case, as the morbid deposition generally commences in the uterus.

I may add, as an evidence of the difference between the two diseases, obtained by inspection after death, the fact that in cancer uteri scirrhous depositions are found in other organs, as the lungs, liver, &c. but none such in cases of corroding ulcer.

2. *From simple ulceration* it may be distinguished by the greater extent of the mischief, the fœtid discharge, the severer pain, and the malignant character of the disease.

259. *Prognosis.*—Sir C. M. Clarke, in his admirable work, seems to expect little more than being able to delay its fatal termination, and this not so much from the intractable nature of the attack, as from the advanced period at which it first comes under our care. Upon the extent of the ulceration, its effects upon the neighbouring viscera and upon the constitution, our prognosis must be founded. Under any circumstances, it is a very dangerous disease, and but little hope can be held out of permanent cure.

260. *Treatment.*—The remedies which should be employed will of course vary according to the stage of the disease. Should we be consulted before any breach of surface has taken place, (which is seldom the case,) Sir C. M. Clarke advises the loss of blood from the neighbouring parts, by cupping, or the application of leeches, to be repeated, if necessary. Hip-baths may also be serviceable at an early period. But if ulceration have set in, are we then to consider the patient altogether beyond our reach? Should we not be justified in excising the cervix uteri, if the ulcer has not spread to the body? In some

cases, this might be considered as affording the patient another chance of life, and consequently might be advisable; but, as will be seen in the next chapter, the results of this operation are not such as to excite any very sanguine expectations of benefit. It would be quite useless, if the body of the uterus have become engaged. In such a case, we have a remedy which may possibly be useful: I allude to cauterization. Caustic injections may be employed, or the ulcer touched with solid caustic, by means of the speculum. I have applied nitric acid, or muriate of antimony, chloride of zinc, caustic, iodine, &c. in several cases, and have found that although it was impossible to get the ulcer to heal, yet its progress could be arrested, the hemorrhage stopped, the pain relieved, and the discharge moderated. In one very severe case, life was, I firmly believe, prolonged by these means for three years; and in another under my care at present, no advance has been made by the disease for two years, although the ulcer is there unhealed still. The frequency of the application must be regulated by the hemorrhage or pain; it may be necessary once a week, or once a month, and I think it desirable to interfere as seldom as possible, lest the mechanical irritation should do mischief. An occasional blister to the sacrum, or an issue, I have found a very useful concomitant.

I have found temporary benefit from vaginal injections of nitrate of silver in advanced cases, when the speculum could not safely be used; they assuaged the pain, and deprived the discharge of its fœtid odour.* Ten, twenty, or thirty grains may be injected twice a day, dissolved in two or three ounces of water.

If these remedies fail to arrest the progress of the disease, or if from peculiar circumstances they are inadmissible, we can only hope to palliate the more distressing symptoms. Sedatives, such as opium, hyoscianus, belladonna, &c. may be given to alleviate the pain. Astringent injections may be employed to check the hemorrhages; and mucilaginous or aqueous ones to cleanse the vagina from the discharge, and to prevent excoriation. The utmost cleanliness should be observed, and the external parts should be washed two or three times a-day, with tepid milk and water. The bowels should be kept free by mild purgatives or enemata. The dyspepsia will be somewhat relieved by aromatic mixtures, or a combination of rhubarb and blue pill.

The diet should be nutritious and bland; but stimulants, except in very moderate quantities, ought to be avoided, as likely to prove injurious, and to induce a recurrence of the hemorrhage.

261. In the year 1843, a case of corroding ulcer presented itself at the Western Lying-in Hospital, which probably commenced during pregnancy, but was not discovered until labor had set in. I shall

* This peculiar effect of the nitrate of silver was observed in a case of cancrum oris, in the Richmond Hospital, to which it was applied by Mr. Adams. The next day the fœtor entirely disappeared.

quote the case shortly from my note-book, as it seems to me peculiarly interesting.

"Mrs. Sheeran, æt. 40, entered the Hospital, April 1, 1843, at 1 P.M., in labor of her eighth child. She stated that she had been in active labor for more than twenty-four hours. On admission, the pains were strong and forcing. On examination, I found the cervix nearly destroyed by irregular ulceration, which had extended more deeply into the substance of the uterus posteriorly.

There was very little, if any, thickening of the parts, nor were they unusually hard: there was no deposition into the pelvis. The discharge was profuse, and very fœtid; and she stated that she had been subject to the same kind of discharge, with acute pain, for *at least* five months.

The head of the child was pressing at the os uteri, but the pains seemed to have no effect in dilating the orifice.

Her countenance was that of a person suffering from malignant disease.

She continued in the same state until 8 P.M. when a consultation was held as to the propriety of interfering, but before any thing was decided, a few very great pains drove the child into the world. It was putrid. The placenta was expelled immediately. The patient seemed much relieved when it was over: there was neither fainting nor cramps, the pulse was quick (as from the beginning), but firm.

For some days the patient seemed rather improving. Pulse about 100, but steady; discharge intolerably fœtid. Slight tenderness, but no swelling of abdomen. Thirst, and foul tongue. On the fourth day after delivery, however, the pulse became very quick and weak; the abdomen was moderately swollen, and rather tender; the skin clammy, and of a dirty color; face anxious, &c.; in short it was evident that the patient was sinking; and on April 6, she died.

Post-mortem examination, 20 hours after death. Great emaciation; abdomen swollen and tympanitic. On laying open the peritoneal cavity, we found a moderate effusion of yellow serum: the intestines and omentum were every where covered with lymph, and glued together by it. The serous membrane underneath was vascular in many parts. The uterus was of the usual size five days after delivery. On its left side, below the broad ligament, were some clots of blood, and a small quantity in the cavity of the pelvis. Posteriorly, at the junction of the cervix with the body of the uterus, there was a transverse rent, about an inch long, corresponding to the part most deeply destroyed by ulceration.

The substance of the uterus was perfectly healthy; the cervix (as we had learned from the previous examination) was nearly destroyed by irregular ulceration, but *in no part was there any foreign deposition whatever*.

Upon this case I would remark—

1. That, as far as I know, it is the only case on record of corroding ulcer coincident with pregnancy and parturition, unless those described by Mad. Lachapelle and other French writers, as cancer, may have really been of this kind. Whether the disease commenced before impregnation or afterwards, I cannot be sure; but as far as I could collect, I should think it had existed five or six months.

2. It is worthy of notice, that the rupture, which evidently occurred during labor, was unattended with sudden excruciating pain, and was not followed by collapse.

3. That the peritonitis which succeeded, though most extensive, was very faintly indicated by symptoms; the pulse being little changed, the abdomen not swollen till the day before death, and the tenderness on pressure comparatively slight.

CHAPTER XIX.

CANCER OF THE UTERUS.*

262. This is the most fearful and uniformly fatal disease to which the uterus is obnoxious: it is the most irresistible in its progress, and the least amenable to treatment. It is often met with, generally very marked in its symptoms; and as it is uniformly fatal, abundant opportunities are afforded of anatomico-pathological investigations.

And yet if we compare the writings of different persons, and those men of great experience, we shall find many points of interest undetermined, and others the subjects of incessant controversy. Very frequently the description of the disease conveys only a lively picture of the uncertainty of the writer; and so vague indeed is the sense in which the term cancer is sometimes applied, especially by the French

* Denman's Midwifery, p. 78. Burns' Midwifery, p. 110. Campbell's Midwifery, p. 469. Davis's Obstetric Medicine, vol. i. p. 698. Dewees, Diseases of Females, p. 254. Manning, Diseases of Women, p. 267. Leake, Diseases of Females, p. 111. Astruc, Diseases of Females, vol. ii. p. 106. Clarke, Diseases of Females, vol. i. p. 204. Blundell, Diseases of Women, p. 82. Cyclop. of Pract. Med., art. Pathology of the Uterus. Dict. de Med. et Chir. Prat., art. Cancer. Boivin and Dugès, Diseases of the Uterus, &c. p. 225. Siebold, Frauenzimmerkrankheiten, vol. i. p. 622. Lee, Pathology of the Uterus, pl. 1.

authors, that it would be quite impossible to recognize the complaint from their description.*

Denman fully appreciated the uncertainty of the descriptions generally given: he says, "Of cancer it is to be lamented we have at present neither a tolerable definition nor a correct history, nor any accurate distinction of the several varieties which are certainly known to exist. Nor is it yet proved whether cancer of any part has any specific quality, according to the structure of the part affected; nor have we, in fact, any other idêa than that it is an incurable disease."† Very much light, however, has been thrown upon the subject, since the time of Denman, by both French and British authors, especially by the latter; and their more accurate information concerning elementary forms of disease generally, is beginning to be applied to the study of the morbid changes which take place in the uterus.

In a recent publication, remarkable as well for its minute accuracy as for its vast range of information, Dr. Copland has thus defined cancer:‡—"A disease often arising from hereditary predisposition, in the middle or advanced periods of life; commencing with a local hardness, which subsequently softens in its centre, infects the adjoining parts, and ultimately contaminates the frame." This appears to me to be as good a definition of cancer generally as any I have seen, and it applies equally to cancer of the womb.

Sir C. Clarke says,§ "by carcinoma is meant that disease where there is a tumor near to, or a thickening of, the cervix of the uterus, which tumor or thickening are disposed to ulcerate."

Dr. Carswell remarks the impossibility of giving a precise definition of the disease. "It may, however, be said to consist in the formation or deposition of a peculiar substance, which presents great variety of consistence, form, and color; frequently assumes a definite arrangement, and possesses a vascular organization of its own: gives rise to the gradual destruction or transformation of the tissues in which it is situated; affects successively or simultaneously a greater or less number of organs, and has a remarkable re-productive tendency."

* M. Duparcque's definition of cancer is as follows:—"Nous donnons ce nom, relativement aux alterations organiques de la matrice, a toutes celles qui offrent les characteres communs suivans: 1. De tendre á faire des progrès indefinis. 2. De tendre á se terminer d'une manière funeste. 3. Et d'être en géneral jusqu'à prèsent au dessus des resources de tout traitement médical."—*Alterations organ. de la Matrice*, p. 381.

† Midwifery, p. 116.

‡ Dictionary of Pract. Med. p. 282, art. Cancer.

§ Diseases of Females, vol. i. p. 207.

This disease is frequently met with,* though perhaps not quite so often as is supposed, in consequence of too hastily pronouncing induration or ulceration (if malignant) to be cancerous. That this is the case with the French, we have the express testimony of a recent writer.

It rarely attacks young females, although such cases occur occasionally. I have seen it in a patient 25 years of age. It is most common after the period of child-bearing, about the "time of life," either before or soon after the cessation of the menses.

Out of 409 cases of cancer of the uterus, quoted by Boivin and Dugès, there were—

Under 20 years of age	...	..	12
From 20 to 30	...	..	83
From 30 to 40	..	...	102
From 40 to 45	...	.	106
From 45 to 50	.	..	95
From 50 to 60	..	. .	7
From 60 to 71	..	...	4
			409

Some doubt may arise about this table, from the very loose meaning attached by the French writers to the term cancer, especially in the earlier stages.

Dionis says, that out of twenty cases, fifteen occurred between the ages of 40 and 45. Mr. Carmichael mentions a case of a girl who died of cancer uteri, æt. 21. Wigand met with a scirrhous uterus in a girl æt. 14

Single women, or those who have had no children, are most obnoxious to its attacks.

Females of the lymphatic temperament seem especially obnoxious to its attacks "MM. Breschet and Ferrus found twenty-three cases

* In the 'Journal des Connoissances Medicales,' for November, 1836, there are some investigations by Mons S. Tachou, as to the frequency of cancer. The sources of his information are the mortuary registries of Paris and the "banlieue." In 1830, there were 351 deaths from diseases of the female genital organs; and of these, 183 were from cancer of the womb.

In 1831, there were	379 deaths, of which	246 were from cancer.
In 1832,	396	230
In 1833,	498	250
In 1834,	436	304
In 1835,	508	285

of this temperament, prominently marked, out of forty-four cases of this disease."

A distinction is made by most writers,* into cancerous ulcer and ulcerated cancer; in the former the ulceration is the primary affection, and the morbid deposition but secondary; whilst in the latter, the state of scirrhus precedes the ulceration. I shall not found any arrangement upon this, inasmuch as the first species is very rare, and the distinction is without use in practice. Following the course of the disease, which, in almost every case, commences by a morbid deposition, without breach of surface, and then after some time ulcerates by central softening, I shall consider separately the two stages of *scirrhus or carcinoma* and *cancer*. Yet, as these are but two stages of the same disease, I shall not make two chapters; but under each head of pathology, symptoms, &c. speak first of carcinoma and then of cancer.

Since this work was first written, I have met with several cases in which the ulceration preceded the deposition. The first I saw in the Meath Hospital, through the kindness of my friend Dr. Graves. The cervix was ulcerated, and the parts underneath the ulcer slightly thickened. The uterus was quite moveable, without tenderness or fœtid discharge. The uterus gradually enlarged, and became less moveable until it was nearly fixed.

* Boivin and Duges speak of 'tuberous cancer,' 'ulcerous cancer,' 'fungous cancer,' and 'hematode cancer:' the first answering to the carcinoma and cancer of English writers; the second, to the corroding ulcer of Sir C. Clarke; the third, to cauliflower excrescence, &c.; and the fourth, to fungus hematodes.

The indistinctness of the French writers, on the subject of cancer, is very apparent, even in this, their best work on diseases of females.

M. Duparcque divides cancerous diseases into 'ulcères carcinomateux,' 'exuberance ou hypersarcose,' 'engorgements,' and 'ulcerations.'

The first refers to those cases where the ulcer precedes the cancerous deposition; the second, to fungous growths; and the two last, to what is described under the title of carcinoma and cancer in this chapter.

The third species, (*engorgemens*) is again subdivided into 'engorgemens cartilagineuse ou osseuse,' 'cancer squirrheux,' and the 'cancer mou ou sanguin.'

Dr. Carswell (*Elementary Forms of Disease, art. Carcinoma*) includes in the term carcinoma, "those diseases which have been termed scirrhus; common, vascular, or organized sarcoma; pancreatic, mammary, and medullary sarcoma; and fungus hematodes;" and he divides these into two classes, scirrhoma and cephaloma.

The other cases occurred in private practice. The patients suffered great pain; there was fœtid discharge, with occasional hemorrhage; some hectic emaciation. At first the uterus was moveable, the ulcer occupying the rim of the os uteri, and the parts not thickened: by degrees, as the ulcer extended, the parts became more dense and thicker, and the uterus less moveable.

In such cases, it appears to me that the progress is much slower than in ulcerated carcinoma.

263. *History and Pathology.—a. Scirrhus.* I have already mentioned that several points in the history of cancer are as yet undecided, such as whether it is a disease essential to glandular structure, or whether this limitation applies to primary scirrhus only. It is indisputable that in other parts of the body the ulceration may occasionally precede the cancerous deposition, and the same may occur in the uterus. Again, it is disputed whether it depends upon a depravation of the nervous fluid, or is in reality an hydatid (*hydatis carcinomatosa*) having an independent existence, developed in those parts of the body whose vitality is enfeebled, and the matter of which begins in some degree to be decomposed.*

By Broussais and his followers it is, of course, attributed to chronic inflammation.

Andral and Copland regard it as resulting from an altered state of nutrition and secretion, terminating in ulceration.

Prof. S. Cooper considers it to be constitutional, and not dependant upon the local circulation.

Prof. Carswell thinks that the matter of scirrhus exists "not only in the molecular structure, and on the free surface of organs, but also in the blood." He further observes, "We cannot, therefore, limit the seat of this disease to any one tissue, or ascribe its origin to any modification of structure or special organization, as has been done by several pathologists."

Dr. Hodgkin has endeavoured to prove, that the presence of a serous membrane having a cystiform arrangement is necessary for the production of carcinoma.

Dr. Carswell denies the *necessity* of this, though he admits its occasional occurrence.

"Cruveilhier regards all organic transformations and degenerations as exclusively the result of the deposition of morbid products in the *cellular element* of organs. He believes that the '*tissus propres*' of organs are incapable of undergoing any organic lesion, except hypertrophy and atrophy."

As to its mode of deposition in the uterus, Sir C. Clarke describes two varieties in the early stage. 1. There is a firm tumor, of a

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* Carmichael, Essay on the origin and nature of tubercular and cancerous diseases, p. 49.

rounded form, springing from the surface of the cervix uteri, or imbedded in it, whilst the other parts of the uterus are perfectly healthy, except that its parietes are thickened as the disease advances, and that its cavity becomes larger than that of a healthy unimpregnated uterus. 2. Instead of any distinct tumor, the whole of the cervix of the uterus becomes larger and harder; and if this thickened part is examined after death by cutting into it, it puts on the same appearance which a regular carcinomatous tumor possesses.*

Some discrepancy of opinion exists as to the part of the womb most frequently attacked *first* by carcinoma.

Dr. Burns is rather doubtful about this; he says, "As opportunities are not frequent of examining the womb in the early stage of the disease, and as it course of time it involves parts not at first affected, we have not yet decided what the comparative liability of different parts of this viscus is to the disease."†

Sir C. Clarke is very decided upon the point; he remarks:—"Carcinoma particularly affects glandular parts; and the cervix of the uterus being the most glandular part of it, is probably the reason why it becomes more liable to this disease than any other part of this viscus."

Bayerle and Wenzel agree with Sir C. Clarke as to the fact, but they attribute it to the greater exposure of the cervix to injury.

Siebold‡ also considers the neck as the part most frequently first attacked.

Dr. Blundell observes, "The malignant ulceration of the uterus, it seems, almost invariably begins in the mouth and cervix. Are the glandulæ nabothi the cause of this? Are not the mucous glands in the lip a principal cause why the malignant change attacks this part? Is not the malignant disorganization, sometimes observed at the anus, the pylorus, and the valve of the ilium, to be ascribed to the mucous glands there? and are not the glandulæ nabothi, that is, the large and numerous mucous glands in the neck and mouth of the womb, the cause why, in its commencement, the disease usually gives a preference to this part?"§

Dr. Lee says that "it is not in the glandular structure of the os and cervix uteri that carcinoma generally commences."‖

It may certainly commence in any part of the uterus or appendages, but the cervix appears most liable to its attack.

The surface of a scirrhous uterus is unequal, indented, and smooth;

* Diseases of Females, vol. i. p. 211.
† Midwifery, p. 105.
‡ Frauenzimmerkrankheiten, vol. i. p. 623.
§ Diseases of Women, p. 162.
‖ Cyclop. of Pract. of Medicine, vol. iv. p. 394.

it forms an incompressible mass of different degrees of hardness, of varying magnitude, though seldom very large.

Astruc observes that "scirrhus of the uterus is a kind of tumor which has four essential characteristics: it is hard and resisting; insensible even when touched; gradually formed by way of *congestion*, and, moreover, does not change the natural color of the part."*

Scirrhus is further divided by him into general and partial, according to the amount of deposition; and perfect or imperfect, according as the tumor possesses little sensibility or none at all.

"The substance of a scirrhus uterus is, when cut into, (says Dr. Baillie), thick and hard; and when its structure is examined, it shews a whitish, firm substance, intersected generally by strong membranous divisions. This is the common appearance of the structure of scirrhus in other parts; and it differs less from the natural appearance of the structure of the uterus, than that of any other part of the body."

"When carcinomatous tumors are cut through with a knife, they offer a good deal of resistance, and appear sometimes as hard as cartilage. The cut surface presents an appearance of white lines, which run pretty regularly with regard to each other, but the directions of which vary according to the shape of the tumor.'† The white lines do not indicate malignant disease.

Dr. Copland's observations are so much to the point, that it would be unpardonable to omit them. Scirrhus, at the commencement, "is distinguished by hardness, coldness, whiteness or paleness, insensibility, and a deficiency of red blood-vessels—a state indicating a low grade of vital endowment of the part." "The scirrhous structure, when fully developed, consists of a firm, hard, rugged, incompressible, and unequal mass, the limits of which are not distinctly defined. Its color is generally of a light grey; and when cut into thin slices, it is semi-transparent. Upon close inspection, it is found to consist of two distinct substances: the one hard, fibrous, and organised; the other soft, and apparently inorganic. The former composes the chief part of the diseased mass, and consists of septa, which are opaque, of a paler color than the soft part, unequal in their length, breadth, and thickness, disposed in various directions; sometimes forming nearly a solid mass; in other instances, a number of cells or irregular cavities, which contain the soft part. This latter is sometimes semi-transparent, of a bluish color, and of the consistence of softened glue; at other times, more opake, softer, somewhat oleaginous, and like cream in color and consistence."

"The fibrous structure seems to be the cellular or proper tissue of the part, in a state of induration and hypertrophy; assuming, in consequence of its increased density and bulk, an appearance similar to

* Diseases of Women, vol. ii. p. 406. See also Manning, p. 267.
† Clarke, Diseases of Females, vol. i. p. 208.

the fibrous or fibro-cartilaginous structure; whilst the softer portion, contained in the meshes or cells of the former, appears to be merely a morbid secretion poured out by the vessels nourishing the organized fibrous tissue, and is probably the exhalation of the part, either secreted in a modified state, or accumulated and changed by the disease of its containing structure. If this view be correct, the former or organized part may be considered as merely resulting from an altered state of nutrition in the seat of disease; whilst the latter, or inorganized portion, may be viewed as proceeding from a morbid secretion; the diseased structure thus being a product of a disordered state of both the nutritive and secretive functions, most probably in consequence of alteration of the vital influence, excited by the ganglial nerves on the capillaries of the part." "The proportion of each of these two substances, and the modes of their distribution, vary very considerably in different scirrhous masses." "At the commencement of scirrhous disease, the structure of the tissue or organ (in this case, of the womb) in which it is seated, preserves for some time its aspect and color, being changed merely in volume and density; as the disease advances, the proper tissue of the organ becomes more obscure, and verges nearer to that already described."

"M. Hecht of Strasburg analysed 72 grains of scirrhous uterus, and found it to consist of 15 grains of gelatine, 10 of fibrine, 10 of oily or fatty matter, and 35 of water and loss."*

"When minutely examined with a magnifying lens, the morbid substance of scirrhus looks like acicular lines, or granules, or ligamentous fibres, paler than the healthy structure of the part."†

264. *b. Cancerous stage.* The state of parts just described may continue for some time without much perceptible change, but, sooner or later, "portions of the scirrhous mass begin to soften, and pass into a state of unhealthy suppuration and ulceration: unhealthy as respects the character and progress of these processes, and their contaminating influence upon the whole frame. The soft, or inorganic substance, resolves itself into a thin ichorous matter, very different from pus; and the disorganization commences generally about the centre of the mass, and extending toward that part of it which is nearest either the surface of the body or any of the natural openings."‡

In this stage, the disease takes the name of cancer. The breach of surface most frequently commences at the cervix uteri;§ it may,

* Copland's Dict. of Pract. Medicine. art. Cancer, p. 283.

† Hooper, Morbid Anat. of Human Uterus, p. 28.

‡ Copland's Dict. p. 284.

§ "The ulceration almost always commences in the vagina, around the os uteri, extends along the cervical portion, and destroys the greater part of the uterus." "In this state, the ulcerations are covered with shaggy and fibrous portions; there is no appearance of

however, attack other parts of the uterus first. The direction of the ulceration is very uncertain: sometimes the posterior wall and sometimes the anterior having the precedence.

The establishment of the ulceration appears to arrest the morbid deposition into the uterus, as that organ increases but little in bulk, after ulceration has commenced.

"When the skin covering a scirrhous tumor ulcerates, a fungus, of a cauliflower appearance and hard grisly structure, sometimes proceeds from the surface of the mass. In some cases, ulceration destroys both the fungus and the primary tumor."

"Cancerous tumors generally contaminate the glands in the vicinity, particularly after ulceration has commenced." In accordance with this statement, we find that the cancerous matter is not only deposited in the uterus, but that after a while, the glands in the pelvis participate in the disease, and in some cases the glands of the groin likewise.

Cancerous deposition also takes place into the cellular interspaces among the pelvic viscera, which are in consequence firmly agglutinated together, and perfectly immoveable.*

The vagina and bladder may also participate in the deposition, and become the seat, subsequently, of malignant ulceration. "I may add, moreover, that under these malignant disorganizations, vaginal and uterine, the *ovaries and tubes* are occasionally attacked with indisputable scirrhus, diffused or tubercular."†

Cancerous matter has been found in the lymphatic vessels leading from the pelvis, in the inguinal glands,‡ and even in the thoracic duct itself.

M. Andral recognised it in the walls of the thoracic duct, and Dr. Hourman§ detected it free, both in the lymphatic glands, and in the thoracic duct.

healthy granulations, and the whole exhibits a sloughing pulpy surface."—*Hooper, Morbid Anat. of Human Uterus*, p. 28.

* See "Cases of Cancer Uteri," by W. F. Montgomery, M.D., in the Dublin Hospital Reports, vol. v. p. 413, (case 1).

† Blundell on Diseases of Women, p. 159.

See also Siebold, Frauenzimmerkrankheiten, vol. i. p. 624.

‡ Dr. Montgomery's paper in Dublin Hospital Reports, vol. v. case 2, 3.

§ See his paper on Cancer Uteri, in the Revue Med. Franç. et Etrang. for Feb. 1837.

It may be well, perhaps, to quote the writer's own words. After describing the cancerous state of the womb and appendages, he proceeds:—"La masse de l'intestin grele ayant ete detacheé, un longue traineè de cordons noueux, formant un faisceau du volume du doigt indicateur, et d'une coûleur jaunâtre, apparut de chaque cotè de la

It will be recollected, that in Dr. Copland's analysis of scirrhous structure, mention is made of a soft inorganic matter like glue, and the hardened hypertrophied cellular tissue, in the meshes of which the former is deposited. The learned author also observes, that the varied proportions of these constituent parts give rise to the different species of cancer. Of these, several have been described by authors, as, for instance, cephaloma,* hæmatoma,† sarcoma, fungous hematodes, &c.

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colonne lombaire. Ces cordons emergaient du bassin et avaient leurs racines dans la masse cancéreuse de l'uterus, des parties laterales de laquelle ils se detachaient. En suivant leur trajet, on les voyait se porter de bas en haut au devant de l'artere et des veines ovariques, qu'ils enveloppaient comme d'un canal. Arrivês à la hauteur des reins, ces cords se renflaient considerablement, en meme temps que leur nodosites ne multipliaient. La, ils quittent les vaisseaux ovariques, et on les voyait se diviser en deux branches, l'une verticale, l'autre transversale. Celle-ci se recourbait vers la ligne modiane, et venait au devant de l'aorte s'unir à la branche transverse opposeê. Les branches verticales s'elevaient sur les cotês de la colonne vertebrale, et bientòt penetraient derriere l'aorte à travers les piliers du diaphragme. On les retrouvait dans la poitrine jusqu'à la hauteur de la onzieme vertebre dorsale, ou elles se terminaient au canal thoracique; la branche droite directement, la branche gauche par trois ou quatres rameaux, qui gagnent le canal en passant, les uns devant les autres, derriere l'aorte.

"Une incision lineàire, pratiquèe dans l'etendue d'un pouce sur une trainèe de nodositès, m'a permis de constater qu'elles n'etaient autre chose que les vaisseaux lymphatiques, ovariques, et tubaires, remplis de la meme matiere encephlöide qui constituait le cancer de l'uterus."

* "This disease which has been called the soft cancer of the uterus, consists of an organised, soft, vascular substance, that resembles brain in appearance and feel. The whole of the uterus is sometimes converted into this structure."

"A cephalomatous uterus is generally much larger than a healthy one. The cut surface is of a pale yellowish flesh-color, more like to brain than any thing else. To the eye it does not appear very vascular; and when a portion is cut, the knife retains a humid paste or cream-like substance, which oozes also from the cut surface when moderate pressure is applied. The vaginal portion of the uterus is much enlarged in this disease; and the cervix is, in some cases, lost by the enlargement of the body having extended to the very lowest portion. The os uteri is mostly very open or widened; the labia or sides are very soft; and their internal surface, as far as the cavity of the uterus, is often ragged."—*Hooper's Morbid Anatomy of the Human Uterus*, p. 16.

† "This occurs in the uterus as an organised, soft, vascular sub-

265. *Causes.—a. Scirrhus.* There can be no doubt that the disease is frequently hereditary, after the examples all have witnessed of mothers and daughters falling victims to similar attacks.

Perhaps, however, though the cancerous diathesis may be transmitted, the locality may be undetermined.

stance, resembling solidified blood, with an appearance here and there of spongy and more flesh-like portions."

"When divided, the cut surface of this disease is smooth, like firm coagulated blood, or like the albuminous part of the blood when solidified. Patches of vascularity, here and there, are distinctly seen, and in many parts the structure is fibrous and spongy. The knife is soiled that cuts the disease, and in most instances a humid, paste-like, and somewhat reddish matter oozes from the cut surface when pressed."—*Hooper*, p. 17.

Duparcque evidently regards the dark color as owing to the effusion of blood in the cancerous matter.

Speaking of the varieties of scirrhoma, Dr. Carswell observes, "the deposit may be collected in numerous points, in the form of a hard, grey, semi-transparent substance, intersected by a dull white or pale straw-colored, fibrous, or condensed cellular tissue, and as such is commonly denominated *Scirrhus.* When it assumes a regular lobulated arrangement, so as to represent an appearance similar to a section of the pancreas, it forms what was called by Mr. Abernethy the *Pancreatic Sarcoma.* Again, it may be disseminated uniformly throughout the texture of an organ, which it converts into a solid substance, resembling a slice of raw or boiled pork, and it is then called by the French the *Tissu lardace.* Lastly, when it presents the appearance of firm jelly, and is collected into masses of greater or less bulk in a multitude of cells, it is the *Matiere Colloïde* of Laennec, the *Cancer Gelatiniforme ou Areolaire* of M. Cruveilhier."

As to the second species of cephaloma and its varieties, Dr. C. remarks that when it presents the appearance of firm coagulable lymph or fibrine, deprived of the red coloring matter of the blood, possessing a uniform, fibriform, or lobuliform arrangement, with a certain degree of transparency and vascularity, Mr. Abernethy gave it the name of *Common Vascular* or *Organised Sarcoma.* If it be uniformly disseminated throughout the texture of an organ, so as to transform it into a substance resembling a section of the mammary gland, or the udder when boiled, the appellation of *Mammary Sarcoma* was given to it by Mr. Abernethy. When it presents an appearance similar in color and consistence to the substance of the brain, it was called *Medullary Sarcoma* by the same distinguished surgeon; *Matiere Cerebriforme ou Encephaloïde* by Laennec, and *Spongoid Inflammation* by Mr. Burns."—*Carswell on the Elementary Forms of Disease*, art. Carcinoma.

Females of the lymphatic temperament appear especially obnoxious to its incursions, and it is certainly much more frequent about the period of the cessation of the menses than at any other time; the anatomical peculiarities, as well as certain menorrhagic attacks which prevail at that time, being evidently favorable to its development.

Anxiety and the depressing passions, bad food, exhausting occupations, unhealthy localities, are all enumerated as predisposing causes.

External violence is mentioned by Leake* as giving rise to it, but this may perhaps be doubted. Violence applied to the uterus itself has been assumed as a fruitful cause, and with much more appearance of probability; but even against this there is strong evidence in the fact, that the disease is more frequent among virgins and those who have never borne children, and also that it occurs at an age when these organs have, for the most part, ceased to be exposed to injury.

Several French authors conceive that it may originate in a syphilitic affection of the constitution; but this point is by no means established.

b. Cancer. The change from scirrhus to cancer will certainly take place, in the natural progress of the disease, without any special cause; but any irritation or violence applied to the part will probably hasten its progress. For this reason, excessive coition or child-bearing may be followed by very serious consequences. If the patient take cold, and this be determined to the genital system (as weak points are generally attacked), it may issue in the setting in of ulceration somewhat prematurely.

266. *Symptoms.*—These may be divided into the *mechanical*, caused by the bulk of the affected organ, and its relation to surrounding parts; the *physiological*, or those arising from the functional disturbance; and the *pathological*, dependent upon the morbid structure, and the diseased actions going on in it, and extending to neighbouring parts.

The first and second class only are prominent in the scirrhous stage of the disease; the whole three, but especially the third, when it is transmuted into cancer. The mechanical symptoms predominate so long as the cancer is a distinct tumor.

We shall consider the two stages separately:

267. *a. Scirrhus.* The symptoms at first are very slight, and not such as to excite uneasiness; so that considerable progress has generally been made before the true nature of the disease is discovered. Frequently, some unusual irregularity of menstruation is the first symptom which excites attention, though, in many cases, the integrity of this function is long preserved, and in others, it will have ceased spontaneously. Some uneasiness may be felt on standing or walking, and a weight pressing down upon the perineum, as though the womb were

* On Diseases of Women, vol. i. p. 111.

about to fall through. Sometimes a degree of annoyance is felt on lying on one side or the other.

As the bulk of the deposition increases, so does the mechanical inconvenience: the pressure upon the rectum is distressing, and gives rise to a supposition of piles, and the pressure on the bladder to a frequent desire to evacuate its contents, but seldom to any dysuria. There is often a mucous discharge from the bladder.

The weight of the uterus occasions its descent below its natural level in the pelvis. As yet we observe but little pain; there is, it is true, occasionally, a lancinating pain through the pelvis, but this is not frequent until just before ulceration sets in.

The mucous secretion, at first, is scarcely increased, as it is some time before the lining membrane of the uterus participates in the morbid action;* but at length we find a considerable discharge of a bland character, having none of the fœtid and acrid qualities so offensive in the discharge from the ulcerated surface.

As this stage merges into the next, we may occasionally discern striæ of blood mixed with the discharge, and occurring during a menstrual interval.

If the tumefaction of the uterus or pelvic contents be very great, the patient may suffer from œdema of the legs; and in some few cases, the tumor may be felt in the hypogastrium.

If a *vaginal* examination be made, we shall discover either of the two forms of deposition; as far as my experience goes, that one where the uterus is generally and pretty equally affected is the more frequent. The cervix, and as much of the body as we can reach, feels tumified and hard; and the edges of the os uteri, instead of being smooth and even, present one, two, or three deep notches without any breach of surface, and not radiating from the os uteri.

The os uteri is rather more open than usual, but the lips are rigid, and towards the latter part of the first stage, pressure on the cervix is occasionally painful; it is at this time that we first detect the commencement of that extension of the disease which ultimately involves the whole of the pelvic viscera. Up to this period, the increase in the bulk of the pelvic contents is sufficiently defined, and limited to the womb itself, which is consequently as moveable as its size will permit; but as the surrounding deposition increases, this mobility is diminished, until, in the second stage, the uterus is quite fixed.

It should also be mentioned, that when ulceration is about to commence, some part of the swollen and hard viscus may be felt softer than the rest, indicating the part to be first attacked; and this part will be both tender and painful.

If the *speculum* be used, the cervix appears swollen, tense, and shining, sometimes spongy, of a deep red or brownish color. A fluid

* Nauche, Mal. prop. aux Femmes, vol. ii. p. 589.

discharge occasionally escapes from the membrane covering it, in consequence of the pressure.

At an advanced part of this stage, the stomach appears to sympathize with the local distress: the patient loses appetite, becomes dyspeptic, and suffers from cardialgia. Another symptom, not very unusual, is an eruption on the skin, generally of utricaria, which, for the time it lasts, is exceedingly distressing: Sir C. Clarke attributes it to the presence of acid in the stomach.

It is very remarkable that so grave a disease should not preclude the possibility of conception: several such cases are on record;* in some of which the child was delivered by the unaided natural efforts, in others, by version, or the forceps. Out of seven cases related by Mad. Lachapelle, four of the mothers recovered from the delivery.

268. *b. Cancer uteri.* How long the first stage may continue, it is impossible to determine; in some patients it may last for years, in others, for a much shorter period; dependant probably upon the constitution of the patient partly, and partly upon the influence of certain causes already enumerated.

The pathological change from scirrhus to open cancer is not more remarkable than the alteration and aggravation which are observed in the symptoms.

There are three new symptoms superadded, which deserve our utmost attention, and these we shall consider first, viz. the pain, the hemorrhages, and the discharges.

269. 1. *The Pain.* The character of this severe pain is described as *lancinating*, as though knives were plunged into the body; and so general is this, that it has been proposed as one distinction between this disease and corroding ulcer. There are cases, however, where it is described as a burning pain; others, in which it is not severe or lancinating; and a third class who suffer no pelvic pain at all.

When present, it is generally constant, but aggravated by very severe paroxysms, which, commencing in the region of the uterus, shoot through the pubes and loins, and down to the anus and thighs. So limited and yet severe is this about the rectum, that I have had patients in advanced stage of cancer, who came to consult me for what they assured me was only 'bad piles.' This sensation increases as the disease advances, and occasionally is the prominent symptom towards the close of the patient's life. In some cases, the warmth of the bed appears to increase the suffering.

* Zeppenfeld, Diss. System. casum carcinomatis uteri cum graviditate conjuncti, Berol. 1828. Siebold, De Scirrho et Carcinomate uteri, &c. Mad. La Chapelle, Pratique des Accouchemens, vol. iii. pp. 368, 371. Boivin and Dugès, p. 133. Lancette Française, Dec. 1836. Lambreis, American Journal of Med. Sciences, vol. v. p. 233.

I have mentioned cases where uterine pain is absent altogether, and in some such which I have seen, distant pains were all the suffering. I was lately requested to visit a patient, in consultation with a very intelligent apothecary, whose testimony confirmed the statement of the patient, that she had never complained of pain in the uterine region at all, but from the time that ulceration might be supposed to have commenced, she suffered excruciating pain along the course of the sciatic nerve down to the foot. What was still more curious, she experienced immediate and complete (though, alas, but temporary) relief from the sciatica, by the use of an injection of nitrate of silver, which was ordered for the purpose of destroying the fœtor of the discharge.

"But it also happens, not unfrequently, that they become gradually exhausted and debilitated through want of rest, occasioned by terrible pains in the hypogastrium or sacral regions, or in the loins, nates, iliac fossæ, and more frequently, all along the femora, either in the direction of the sciatic nerve, or in the direction of the crural nerve; pains seldom continual, but recurring in paroxysms, once, twice, or three times in a day, and lasting several hours at each time." "These pains are sometimes so acute, according to MM. Bayle and Cayol, that persons have been known to die of convulsion or delirium, occasioned by cerebral fever."*

270.—2. *The Hemorrhages.* These occur at an early period after the ulceration begins; indeed, in many cases, they seem to precede the pain, and are the first occurrences which excite alarm in the mind of the patient. They are frequently mistaken for a return of the menses, by females in whom that discharge has been for some years arrested; and I have known such treated as menorrhagia. I mention this for the purpose of showing the positive duty of making a vaginal examination, in every case when blood is discharged from the vagina, before deciding upon our plan of treatment.

The amount of sanguineous discharge varies a good deal in different persons; it is sometimes very large; the quantity of successive discharges will also vary; but one point I have remarked in almost all cases, that the larger floodings occurred at an early stage of the ulceration, and, that subsequently, the quantity lost was less each time, and the intervals greater.

The progress of the ulceration appears to be arrested, and the pain relieved for a short time after each flooding; but if, in this way, some mitigation be afforded, the weakness resulting from the hemorrhage more than counterbalances the benefit.

271.—3. *The Discharge.* Up to the actual commencement of ulceration, the character of the discharge does not vary from that of

* Boivin and Dugès, Diseases of the Uterus, p. 235. See also case 4 in Dr. Montgomery's paper in the Dublin Hospital Reports, vol. 5.

the usual vaginal secretion, it is merely augmented in quantity; but the moment the organic destruction begins, it is entirely changed. Its odour becomes almost insupportably fœtid, so much so as to constitute a great part of the patient's distress: for, besides proving an annoyance to herself, it almost forbids that degree of personal attention on the part of friends, upon which so much of the solace of a sick-bed depends.

The color of the discharge varies from a dirty white to a dark brown, green, or black; now and then it receives a tinge of color from the admixture of a small quantity of blood; it is most generally a very thin serous fluid,* secreted very copiously, and containing occasionally flocculi of lymph or coagulated discharge.

It is ordinarily acrid, but sometimes much more so than at others, and, in consequence, the inner surface of the labia is very tender, and there is a ring of excoriation around the orifice of the vagina, extending to the anus, and sometimes even down the thighs. This gives rise to incessant itching and soreness of the vulva, and, of course, the distress of the patient is greatly aggravated; it also renders a manual examination very painful. From the same cause, probably, the vulva is liable to a flabby swelling or erisipelatous inflammation.†

After the continuance of the disease for some time, the bladder begins to sympathize; there is a mucous deposition from the urine, and some dysuria, probably owing to a thickened state of the urethra and meatus urinarius. The difficulty is sometimes so great as to require catheterism, an operation calling for great tenderness and tact under such circumstances. At a more advanced period, the ulceration will probably reach either the bladder or rectum, or, very rarely, both. For some days before the perforation of the bladder takes place, there is more or less retention of urine, and consequent dilatation of the ureters, which are found thin, distended, and diaphanous, after death. The urethra, from disuse, becomes greatly reduced in calibre after the rupture of the bladder. The bladder appears to be more frequently affected than the rectum, owing to its greater proximity, and there being less cellular tissue interposed.

The escape of the contents of either viscus is a new and fearful source of irritation to parts already irritated, and an additional distress to the patient and those around her. The involuntary escape of the urine is perhaps the most mischievous, as it runs down to the nates

* "The *cancerous sanies* is generally very fluid; but its appearance varies with the treatment, the situation of the disease, and the diet of the patient. It is generally of a greyish white or reddish grey, it slightly effervesces with sulphuric acid, and turns syrup of violets to green."—*Copland's Dict. of Pract. Med.* p. 285.

† Burns' Midwifery, p. 105.

and thighs, and may give rise to excoriation and sloughing of those parts.

Before the destruction of the walls of the uterus, the patient suffers great pain from going to stool, partly owing to the forcing the contents of the abdomen down upon the diseased mass in the pelvis, and partly from the pressure of the fæces in their passage through the rectum.

The information obtained by a *vaginal* examination will vary a little according to the period at which it is made.

We shall discover a hard, unequal, *immoveable** mass filling the pelvis; and about the centre, a perforation which is the os uteri. This is rather more open than natural, and its borders are thickened and hard. It is also lower in the pelvis than usual.

The ulceration may easily be discovered by the loss of substance; it may eat completely round the cervix, so as to destroy it evenly, or the anterior or posterior half alone may be affected, and ultimately the bladder or rectum.

The ulcerated surface is rough, unequal, and tender on pressure, and the finger, when withdrawn, is covered with fœtid sanies, and occasionally tinged with blood.

In some instances we feel a fungous substance projecting from the os uteri, instead of a depressed ulceration; it is rough, unequal, and tender, and will be found to spring from an ulcerated surface, and to be in its turn the subject of ulceration.

The state of the vagina, as to its calibre and sensibility, should be carefully examined, as the morbid deposition is apt to spread to the sides of the vagina, and even to the bladder.

When there is a fistulous opening into the bladder, allowing of the escape of urine through the vagina, some chemical reaction often takes place between the urine and the discharge from the ulcer; flocculi of coagulated lymph are formed, which adhere to the rugæ of the vaginal mucous membrane, and upon which is deposited a quantity of the earthy matter contained in the urine. The surface of the vagina thus acquires a roughness and inequality, which might mislead us to conclude that it participated in the ulceration.

It is seldom that the *speculum* can be introduced, on account of the extreme pain it occasions. When it is possible, it merely adds an acquaintance with the color of the surface of the ulcer, to the information derived from an examination with the finger.

* Dr. Blundell speaks of the *mobility* of the uterus, in some of the "malignant genital disorganizations," and its immobility in others, without attributing either as a characteristic to any special disorganization, but merely referring to their bearing upon the question of excision or extirpation.—*Diseases of Women*, p. 165.

The ulcerated surface is of a greyish color—occasionally dark brown; its edges are of unequal elevation, and very irregular.

So far, the local symptoms have alone been mentioned, but we should anticipate great constitutional disturbance likewise.

The circulation is hurried; the pulse small, quick, wiry, and concentrated, until reduced in force by the repeated hemorrhages. In some cases we meet with the perfect simulation of heart disease. "There is a slow fever," says Boyle,* "attended with night sweats, an habitual diarrhœa, pain, and want of rest." The skin during the day is hot, dry, shrivelled, and yellow, or of a leaden color. There is great emaciation; the fat is all absorbed, the muscles wasted, the eyes sunken, and the patient ultimately resembles a living skeleton. The appearance, however, is totally different from that of a phthisical patient. There is a sharp, distressed expression about the countenance in cancer, very different from the look of exhaustion we observe in phthisis. The features are all drawn upward, the result of severe pain, and they are also very prominent, as though the skin were merely stretched over the bones.

The discoloration of the skin, which has been mentioned, also extends itself to the other tissues.

The stomach soon sympathizes with the organic distress. The appetite gradually diminishes, and ultimately almost ceases; digestion is performed very imperfectly; the patient complains of nausea, with occasional vomiting, and sometimes of a burning heat in the region of the stomach, extending to the intestines. There is intense thirst. Diarrhœa alternates with constipation, and it is difficult to say which occasions the most distress.

"The characters of this *cancerous cachexia* are, emaciation, softness, and flaccidity of the soft solids, œdema of the extremities, hectic fever, a peculiar change of the complexion and color of the whole surface of the body, which becomes of a pale leaden, or pale straw color or waxy hue, and general depravation of the functions. This state of cachexia increases with the progress of the disease, and augments at the same time the primary local change. It is rapidly developed and increased when the scirrhus ulcerates, when also carcinomatous tumors frequently manifest themselves in various parts of the body. Ultimately the circulating fluid is deficient in quantity, and is poor and morbid; and the vital cohesion of the soft solids, and even of the bones, is diminished."†

There is sometimes a special cause for the constipation, in an enlarged condition of the pelvic glands, which may so press upon the

* On Diseases of Women, vol. i. p. 114.

† Copland's Dict. of Pract. Med. p. 285. See also Blundell, Dis. of Women, p. 165. Dict. des Sciences Med. art. Cancer Uteri. Cyclop. of Pract. Med. vol. iv. p. 396.

rectum as actually to arrest the passage of fæces. Dr. Montgomery* relates such a case, and he quotes† a still more remarkable one, where "constipation was induced by this kind of compression, and lasted *nine weeks*; all the efforts to procure the passage of the fæces, either by injection thrown up in great quantities, or by bougies, completely failed."

The abdomen is sometimes soft and flaccid, and at other times tense and painful. It is, however, extremely rare to meet with peritonitis; for, although the ulceration may arrive at the outer side of the peritoneum, it rarely perforates it, unless aided by some sudden effort. Dr. Lee, however, speaks of death being the result of peritonitis, caused by the nearness of the ulcer to the peritoneum. He also mentions, that the ulcer sometimes penetrates the peritoneum covering the uterus; and he relates two interesting cases, one where "the peritoneum of the fundus uteri had been perforated by gangrene;" and another where the ilium had first been united to the uterus by lymph, and then penetrated by the ulceration; and in consequence, "for many months before death, the fæces did not pass along the colon, but into the vagina through the opening into the ilium."‡ In one of Dr. Montgomery's cases, there was general anasarca.

The surface of the tongue is often dry and glossy, especially towards the latter stages of the disease, and it may either be pale or deep red. It is often sore, and small sores of an intractable character form at the angles of the mouth. Occasionally, aphthous patches are observed in the mouth, and also in the vestibulum and around the anus.

Leake§ enumerates pain in the breasts among the symptoms of cancer uteri.

Although the series of symptoms I have described are observed in most cases of cancer of the womb, yet, of course, in each case there may be some peculiarity. In one case, there may be little or no pain; in another, no hemorrhage; in a third, the fever may be less distressing.

In cases of cancer of the bladder and vagina, the uterus may be scarcely affected at all, and yet the symptoms be just the same as in cancer uteri, only that an unusual degree of sensibility may be remarked about the vagina. There is a mistake into which we might easily fall with such cases: as the cavity of the pelvis is not as full as in ordinary cases of cancer, the uterus is more moveable than usual, and the disease might be supposed to be corroding ulcer of the womb.

In most cases of long duration, a deposition of cancerous matter takes place in certain organs, principally the liver and lungs, although

* Dub. Hosp. Reports, vol. v. p. 424.
† Ed. Med. Journ. Jan. 1829, p. 220.
‡ Cyclop. of Pract. Medicine, vol. iv. p. 395.
§ On Diseases of Women, vol. i. p. 117.

it has been found in others. Dr. Blundell* mentions that he has never seen a coincident deposition in the mammæ and uterus. Of course, this deposition gives rise to a secondary train of symptoms and functional disturbances (such as cough, &c.) but which are unnoticed in the magnitude of the primary phenomena.

272. *Prognosis.*—The prospects of the patient are in all cases unfavourable; there is no hope of cure, and but little, if any, decided mitigation of the agonizing suffering entailed by the complaint. The length of the disease will depend a good deal upon the character of the patient's constitution; the hemorrhages, although they may ameliorate, or even appear to arrest the progress of the ulceration for a time, must inevitably weaken the patient, and diminish the powers of resistance. It is really wonderful to see how long life will endure, notwithstanding the formidable combination of local ulceration, wasting fever, agonizing pain, and flooding. The patient ultimately dies of exhaustion, caused by the fever and hemorrhages, or by the occurrence of peritonitis or enteritis.

273. *Diagnosis.*—(*a*) *Scirrhus.* It may be distinguished—1. *From simple induration*—by being less red and vascular, but harder and more lobulated; by the deposition into the surrounding tissues, and by the diminishing mobility of the uterus.

2. *From fibrous tumor*—by being more lobulated, less defined, and ultimately by the pain and ulceration.

3. *From tubercles, &c. in the uterus*—by the hardness and extent of the disease, by the pain, discharge, and the course of the complaint.

4. *From moles, hydatids, &c.*—by the greater hardness, and the spreading into the neighbouring tissues, and by the termination of the two diseases.

5. *From early pregnancy*—by the hardness of the uterus, its slow increase, by the persistence of menstruation generally,† and the absence of all the "signs of pregnancy."

274. (*b*) *Cancer.*—The diseases with which cancer is most likely to be confounded are, simple ulceration of the cervix uteri, corroding ulcer, and syphilitic ulceration. The characteristics upon which the diagnosis must be founded are, the local deposition, the extent of ulceration, the character of the affected tissues, the fixedness of the uterus, the great general distress, the fever, and the fatal termination.

* Diseases of Women, p. 161.

† Siebold conceives that it may occasionally be mistaken for *excessive* and *painful menstruation*; from which it will be distinguished by an internal examination, and by the continuance of the pain after the hemorrhage has ceased. The pain of dysmenorrhœa is limited to the monthly periods.—*Handbuch zur Erkenntniss und Heilung der Frauenzimmerkrankheiten*, vol. i. p. 638.

It may be distinguished, 1. *From simple ulceration of the cervix uteri*—by the increased size of the womb from morbid deposition; by the greater depth of the ulceration; by the fœtor of the discharges; by the immobility of the uterus; and by the severity of the constitutional symptoms.

2. *From corroding ulcer*—by the immobility of the uterus, and by the filling up of the pelvis by morbid deposition.

3. *From venereal ulcers*—by the morbid deposition and immobility of the uterus; by the depth and irregularity of the ulcerated surface; by the severe pain, and the intractable nature of the complaint.

When speaking of venereal ulcers of the uterus, Mr. Pearson remarks, "In every case that I have met with, the uterus retained its natural pendulous state: there was no eversion, nor remarkable dilatation of the os uteri; the ulcers were smooth and even; there were no fungi, nor even unnatural alteration in the structure of the vagina; the pain attending this form of the disease was neither constant nor acute. The venereal ulcers of the uterus yield to the same mode of treatment that is generally employed for the lues venerea."*

275. *Treatment.*—(*a*) *Schirrhus.* A great number of remedies have been employed against what medical practitioners have called scirrhus, and, according to their testimony, with beneficial effects. Thus Manning† relates a case of incipient scirrhus cured by cicuta. Stock, Nauche,‡ Boivin and Dugès,§ Recamier, &c. believe in the curative properties of hemlock. Bitter tonics with alkali (*Peyrilhe*); Belladonna with rhubarb (*Evers*); Hydrochlorate of baryta (*Crawfurt*); Cyanuret, or hydrocyanate of lead, in doses of from gr. ss. to gr.

* Principles of Surgery, p. 120.

† On Female Diseases, p. 272.

‡ Mal. prop. aux. Femmes, vol. ii. p. 598.

§ Diseases of the Uterus, p. 239. See also Rust's Magazine, vol. 47; the Lancet for Oct. 1, 1836; and the Dublin Journal, No. 31.

For a long list of supposed remedies, the reader is referred to Astruc on Diseases of Women, vol. ii. p. 121.

Dr. Copland has enumerated the more important medicines which have been recommended, with the names of their advocates. This list I shall extract, slightly abridged. In the early stage: *Conium*, alone, or in combination with alkaline tonics, &c. recommended by Gessner, Girard, Hufeland, Hahnemann, and Thilenius. *Electricity* and *Galvanism*, by Brisbane and Walther; the *muriate of baryta*, by Hufeland; *antimonials*, by Rowley and Dowman; *aconitum*, by Greding; *digitalis*, by Mayer; *laurel water*, by Thilenius; *mercury, particularly the corrosive sublimate*, by Ruysch, Thilenius, and Harris; *sal. ammoniacum*, by Justamond; *belladonna*, by Gataker; and *the mezereon*, by Home.

iii. or gr. iv. in the day (*Nauche*); Oxyde, or muriate of gold (*Chrestien, Nauche*); with many others, have been supposed to exert more or less influence upon scirrhus and cancer.

Whether so formidable a disease is curable, even in the earliest stages, is, to say the least, very questionable. I confess that after an attentive investigation, my own belief is, that it is not curable. It is not intended, however, for a moment to question the veracity of so many able men, but merely their diagnosis.*

I shall, in this chapter, confine myself to pointing out certain *indications*, the fulfilment of which is, to a great extent, within our power. First, our efforts should be directed to render the progress of this stage as slow, and its transmutation into cancer as distant, as possible. If we compare the symptoms which arise in the two stages of the disease, the reason of this direction of our remedies will be obvious. Scirrhus gives rise to but few symptoms, and it is only the mechanical ones which cause any distress; but cancer entails greater suffering than almost any other disease to which the female is obnoxious, and terminates fatally. So long, therefore, as the complaint can be kept in the first stage, the life of the patient is in no immediate danger, and her comfort but slightly interfered with.

In the more advanced stage, besides *conium*, *belladonna* has been advocated by Alberti, Lamberger, Bellot, Lentin, Camperdon, Sulzer, and Grandvilliers. *Arsenic*, the grand staple of quack medicines for cancer, by Justamond. Stark, Rush, Fischer, Michaelis, Reussner, Hill, &c.

Mercury, as an alterative or wash, is approved of by Mosely, Gooch, Gmelin, Hagen, Gataker, Chapuis, Büchner, and by Sir Astley Cooper *The preparations of iron*, by Justamond, De Marc, and Carmichael. The distinguished surgeon last named prefers the sub-phosphate, combined with a little fixed alkali. *Lead*, by Gessner, Shoenheyder, Horstius, &c.; the *solanum dulcamara*, by Gataker, Oribasius, and Carere; the *volatile and fixed alkalies*, by Barker, Martinet, and Barbette: *antimonials*, by Rowley and Theden; *barytes*, by Crawford; *cinchona*, by Homberg, Vieussens, and Plenck; *the expressed juice of the chelidonium, and the sulphate of zinc*, by Berchelmann; *lime water*, by Vogel; the *orobanche virginiana*, by Barton and Bensell: an ointment with the *juice of the bardoma* and *acetate of lead*, by Perry; the *sedum acre*, by Buchoz and Quesnai; the *onopordum acanthium*, by Goelicke, Handel, Juncker, and Ross; *myrrh*, by Nicolas; *fixed airs*, by Beddoes, Ingenhousz, Percival, Peyrilhè; *hydrosulphuret of ammonia*, by Burns; *petroleum*, by Ramazzini and Pierce; the *rhododendron chrysanthemum*, by Pallas, &c.—*Dictionary of Practical Medicine*, pp. 286, 287, 288.

* Dr. Montgomery has come to the opposite conclusion. See Dublin Journal, No. 60.

In furtherance of our object, of course, every possible *cause* must be removed, and any habits which may be injurious must be altered. Sir C. Clarke recommends the occasional abstraction of blood, either by cupping the loins, or the application of leeches to the vulva, and this from observing the effects of the spontaneous hemorrhage in arresting the progress of the complaint. Care must be taken that the quantity lost be not so great as to injure the patient. It will become absolutely necessary, in case inflammation should arise in any neighbouring organ.

Some slight and occasional counter-irritation may be useful, such as a blister to the loins, or even a seton in the thigh.*

Iodine deserves a more extensive trial than it has yet had. It has been beneficially employed by Dr. Wagner† and Mr. Hill. Dr. Copland speaks favorably of it.‡

Iron and its preparations will always be found beneficial.

The bowels must be kept free, and saline purgatives are the best, because of their causing fluid stools, which are not likely to irritate the womb in their passage through the rectum.

As to direct applications to the uterus, Leake§ recommends vaginal injections containing lead, and, at a more advanced period, narcotic enemata. I do not see any objection to either, though I would not give the vaginal injections with the view of arresting the discharge, for the little which comes away in this stage is probably rather beneficial than injurious.

If the lead be objected to, an injection of warm water should be thrown up, at least once a day, for the sake of cleanliness; care being taken that the pipe of the instrument do not strike against the cervix.

Hip-baths occasionally may be of service.

Great benefit has been said to have been derived from very spare diet; Burns quotes Pouteau and Pearson, as witnesses to its good effects.

* "M. Joubert states that he has found local blood-lettings, and the following pills, most serviceable in the different stages of cancer:

℞. Saponis Medic. ℥iv.
Gum. ammoniaci, ℥ii.
Extract. conii,
——— aconiti āā ℥iss.
Massæ Pil. Rufi, ℥i. M. Contunde benè simul, et divide in pilulas gr. v.

"He directs two of these to be taken night and morning, increasing the dose by an additional one daily, until twelve, fifteen, or even twenty are taken, morning and night."—*Copland's Dict.* art. Cancer.

† Revue Medicale, June, 1823.

‡ Dictionary, art. Cancer.

§ Diseases of Women, p. 124.

The patient should be comfortably clothed, as keeping up the cutaneous circulation may act as a derivation from the uterus.

The urticaria may be relieved by an occasional purgative of rhubarb and magnesia, with some bitter infusion.

276. *As to the management of the delivery, if the patient be pregnant*—we must be entirely guided by the nature of the individual case. It may be terminated by the natural powers alone—it may require the turning of the child—the application of the forceps—incisions, or vaginal hysterotomy. Whatever way the labor may terminate, the ultimate effect will probably be, the conversion of the scirrhus into cancer. The application of belladonna has been strongly recommended, for the purpose of assisting the dilatation of the os tincæ.

As the first stage approaches its termination, the increasing pain will demand the employment of some narcotic.

Conium, combined with alkaline tonics or stomachics, is recommended by many authors, and I have seen much relief derived from it. Hyosciamus is also useful; and they have at least this advantage, that they do not affect the head or confine the bowels, and they leave opium for a still greater extremity.

277. (*b*) *Cancer.*—When once ulceration has commenced, the treatment is not only more complicated, but less effective in the attainment of its object. The rapidity of the progress of the disease is greatly increased, and though it may vary at different times, it can scarcely ever be said to be stationary.

Dr. Copland observes, "I conceive that the treatment of this disease (cancer) should be directed to the fulfilment of the following intentions:—1st. To support the energies of life by exciting the digestive functions, and the abdominal secretions and excretions; 2dly. To sooth the morbid sensibility of the part, and promote the absorption of morbid depositions in its tissues, by means of anodynes, combined with deobstruents and discutients; and 3dly, To impart vigor to the frame by suitable medicines, diet, and regimen. The remedies which are calculated to fulfil the first indication may be often conjoined with those intended to accomplish the second and third; and both internal and external means may be simultaneously used with this view."*

And although it must still be an object to retard the downward course of the disease, we shall find it even more necessary to be cautious in the means employed; the patient will not now bear the loss of blood she could before. A very few leeches may be applied, if necessary, and counter-irritation to the sacrum, but both must be proportioned to the strength of the patient.

In addition, we must combat any complication which may arise by

* Copland's Dictionary, p. 289.

the gentlest means likely to be effectual, and adopt every possible method of mitigating the suffering, and supporting the strength.

Narcotics are almost always necessary, and it is as well to commence with the less powerful, such as conium, hyoscyamus,* belladonna, &c. in appropriate doses. A dose should always be given at bed-time, in order, if possible, to insure the patient a quiet night. The dose must be increased every five or six days, and ultimately we must have recourse to opium.†

Along with the benefit hence derived, there is always one ill effect, viz. the constipation, against which our efforts must be directed, as it occasions great torture. A little castor oil, a few grains of rhubarb, or any mild aperient, should be taken now and then, or the bowels may be freed by enemata. This latter operation is one of some delicacy, in consequence of the near neighbourhood of the disease.

Some have found great benefit from the exhibition of the extract of stramonium, in grain doses, three times a day.

Iodine has been tried with temporary benefit, but with ultimate disappointment.

Great cleanliness is, of course, a '*sine quâ non*,' in order to prevent excoriation, and to lessen the infected odour of the sick room.

Vaginal injections of warm water or mucilaginous fluids should be thrown up two or three times a-day, as well for the sake of cleanliness as for their soothing effect. Capuron adds opium to the injection; others have recommended extract of conium. Various other injections have been advised, such as decoction of carrots; warm water (a pint,) with acetic acid (half an ounce,) or nitric acid (ten drops,) or acetate of lead, (half a drachm.) The object of such is to sooth the parts, and to moderate the discharge; if this be very profuse, we are advised to use solutions of stronger astringent powers, e. g. of sulphate of zinc, alum, &c. They are also said to be beneficial in restraining the hemorrhages. If the flooding be excessive, it may, in general, be arrested by the application of cold to the vulva, or enemata of cold water, and by keeping the patient very quiet. Dr. Blundell adds the use of the plug, but this will require great caution, as the vaginal

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* My friend Dr. Watson, of Liverpool, informs me that he has found a compound of extr. conii, extract. hyosciam. and acet. plumb. applied to the surface of the ulcer by means of a speculum, very successful in diminishing the floodings and in mitigating the pain.

† "It may not be uninteresting to remark," says Dr. Montgomery, "that in this case, and indeed in every other of the same kind, I have found the acetum opii more effectual for the alleviation of pain and for procuring sleep, than any other preparation of that medicine; and it seems to agree best when given in the form of an effervescing draught, or, what appeared to answer still better, with cinnamon water and syrup of ginger."—*Dublin Hospital Reports*, vol. v. p. 422.

canal is often so tender as to preclude the introduction of a foreign body.

I must confess, however, that except their soothing effects, I have seen but little benefit from injections. Some have been tried and commended, which are said to remove the fœtor of the discharges,* and also to produce a good effect upon the surface of the ulcer; such, for instance, as solutions of the chlorides of soda or lime.

Some time ago, I ordered injections of nitrate of silver (gr. x. to ℥i of water twice a day), in a case of cancer, in hopes that it might arrest the ulceration; in this it failed; but I found that it afforded great relief in two particulars: first, it destroyed the excessive irritability of the ulcer, and diminished the pain; and secondly, it entirely took away the fœtid smell of the discharge. This latter effect was pointed out by the patient herself. I have tried it several times since, and always with the same good effect: I therefore feel justified in recommending it to the profession in this disease.

The sympathetic, and even distant pains, which I have noticed, are often and most effectually relieved by injections thrown up to the uterus. In the case of sciatica, which has been mentioned, the injection of nitrate of silver was scarcely given before some mitigation of the pain was perceived; and, after two or three more, it ceased altogether for some time.

In a late number of the 'Journal de progrès de Medicine,' Dr. Bruni relates a case, which, he says, was cured by injections of hydrocyanic acid.

278. A more direct attack upon the ulcer, at an early period, has been made by the application of caustic · caustic potash seems to have been the kind most frequently tried (*Dupuytren, Nauche,*† *Boivin and Dugès,*‡ *Lisfranc.*§) I have tried nitric acid and caustic iodine in this way, with benefit. The fungus was destroyed, the pain relieved, and the discharge improved. It is to little purpose, however, that the surface of the ulcer be destroyed, if malignant deposition occupy the substance of the uterus, or the neighbouring organs.

The distressing state of the stomach will be relieved by aromatics combined with opium, or by aromatic stimulants. A draught, containing

* "It becomes, on this account, a matter of much importance to diminish the fœtor, both mechanically and chemically; mechanically, by frequent washings with warm water, or the flax-seed tea; and chemically, 1st, by carbonic acid gas; 2ndly, by lime; 3rd, by the pyroligneous acid; and 4th, by the chloride of lime or soda."—*Dewees on Diseases of Females*, p. 269.

† Mal. prop. aux Femmes, vol. ii. p. 616.

‡ Diseases of the Uterus, &c. p. 240.

§ Mal. de l'Uterus, p. 345.

opium confection, compound spirits of sulphuric ether, and spearmint water, is very useful.

Prof. Montgomery succeeded in relieving the sickness temporarily, by applying lint soaked in acetum opii over the stomach.

A little blue pill, with rhubarb, will act beneficially and mildly upon the stomach and bowels.

At the utmost, we can but expect some temporary relief from the measures already recommended, and we have the melancholy prospect of seeing our patient descend to the grave amid agonies as insupportable as hopeless. For such cases no remedy has been supposed too desperate, which afforded even the slightest chance; and where medicine has so signally failed, the aid of surgery has been called in, and, according to the extent of the mischief, either *excision of the cervix* or *extirpation of the whole uterus* has been proposed. I have hitherto deferred entering into a full investigation of the merits of this formidable operation, because it is as a remedy for cancer of the womb that it has been generally (though not always) practised, although it rather appears to me that the actual development of cancer would be a strong reason why such an operation should not be undertaken.

M. Duparcque's conclusions on the subject of cancer generally are as follow:—

1. The greater part of confirmed cancers of the womb succeed to congestions and ulcerations capable of being cured; we may then, to a certain degree, prevent the development of these maladies, by properly treating, at an early period, the primary pathological states of which they are the consequence.

2. Once fully developed, confirmed cancers are, at present, beyond the resources of medicine; even surgical treatment, which offers some chance when the disease is limited to the neck of the uterus, is of no service when the entire organ is affected.

3. In all cases, a well-directed palliative treatment of symptoms will arrest the progress of the complaint, render it in some degree stationary, and relieve the most painful symptoms and the gravest 'accidents;' or at least so far mitigate them, as to render less painful the approach of death.

4. All the cases of extirpation which have been published were at a period too near the time of the operation (four, five, or six months at most,) for us to judge fairly of it. It is probable that a greater delay would have afforded even less encouragement.

The question very naturally divides itself into two parts; the first relating to the *excision of the cervix uteri*, and the second to the *extirpation of the whole organ*.

279. I. *Excision of the neck of the uterus.* This is an operation which has been performed repeatedly on the Continent, though but rarely in this country; and opinions as to its propriety and safety have varied very much.

Tulpius, Monteggia, André La Croix, and La Peyronnie, are said to have performed the operation, but on somewhat doubtful evidence.

Osiander excised the cervix, with more or less of the body of the womb, nine times with success,* the subsequent hemorrhage being easily restrained.

M. Dupuytren† performed the operation fifteen or twenty times with success.

M. Recamier and M. Hervez de Chegoin also operated successfully in one case, and M. Cazenave in two cases.‡

Dr. Strachan, an American,§ has succeeded in one case; and, quite recently, my friend Prof. Simpson of Edinburgh.‖

But the great advocate for this operation is M. Lisfranc. On his evidence, professional men were almost persuaded that it was as simple and safe as his cases were numerous. It has been shown, however, by M. Pauly,¶ that his operations were fewer in number than was asserted; and that so far from the operation being either safe or successful, several died within twenty-four hours after the operation, and a considerable proportion (more than two-thirds) were ultimately lost.

1. Instead of the 99 operations stated by M. Lisfranc to have been performed by him, only 53 can be made out.

2. There are no exact accounts of the failures which happened in hospital.

3. Out of nineteen private patients operated upon, only one has been permanently benefited.

4. Of these nineteen cases, four died within twenty-four hours—twelve had an immediate relapse—and in two others, the carcinoma not being entirely removed, the patient sank only the more rapidly.

5. Out of nine patients operated upon under M. Pauly's observation, and near whom he remained twenty-four hours, six were attacked with frightful hemorrhages; and of these six, three died within twenty-four hours.

In addition, abundant proof is afforded, that in many cases excision was utterly uncalled for by the nature of the disease. Such facts are enough to deter the most hardy from attempting this fearful operation; and the exposure of such mis-statements is a striking lesson

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* For a succinct account of Osiander's views, see Edin. Med. and Surg. Journal, vol. xii. p. 286.

† Duparcque. Traite des Alterations, &c. p. 437. Journal Gen. de Med. vol. cix. p. 214.

‡ Gazette Med. de Paris, No. 4, 1836.

§ Amer. Jour. of Med. Science, vol. v. p. 307. Velpeau, Med. Operat. vol. iii. p. 620.

‖ Ed. Journal, No. 146.

¶ Lisfranc, Mal. de l'Uterus, p. 427, et. seq.

to all who, in order to make a reputation, are ready to forsake the paths of honor and truth.

In consequence of this discovery, the operation is now regarded with great suspicion.

MM. Blandin and Velpeau have both lost several patients after it, and the latter observes:*—"Without entering into the question, whether excision of the cervix uteri may not have been frequently performed in cases in which there was no cancer, I will merely observe, that M. Dupuytren, who has, as it were, naturalized the operation in France, seldom has recourse to it at the present moment; that M. Lisfranc, who has so often succeeded in it, appears to adopt it less frequently than heretofore; and that, according to M. Heisse, Osiander discontinued it some time before death."

There cannot be a doubt, that among the French this operation has been frequently performed without any necessity. The feelings of the most judicious practitioners are decidedly against it.

M. Duparcque† observes:—"Judging of the facts generally by those cases which I have examined, I am persuaded that amputation of the neck of the uterus has been practised in a great number of cases where it was at least useless. Among the numerous 'preparations' which have been carried about in triumph to the different medical societies by the most intrepid leveller ('*niveleur*') of uterine necks, we, and many others, have seen necks and portions of the neck of the uterus, which had been removed as being affected with scirrhous engorgement, but which did not even offer the appearance of this state. The 'souplesse,' and the softness of the tissue of the portion removed, which was merely congested, and in which the parenchyme of the organ could be distinctly recognised, indicated sufficiently plainly that the part had been the seat of chronic inflammation, simple congestion, or merely hypertrophy. The deceitful hardness was caused by the fluid in circulation or infiltrated, and its escape after the operation had restored the portion amputated nearly to its natural condition."

Prof. Montgomery‡ says, "I feel quite prepared to declare my conviction of its almost universal impracticability, and of its utter inutility when the disease really exists and is developed."

Dr. Blundell§ remarks "that an operation of this kind is quite out of the question."

Dr. Robert Lee‖ observes, "From what has been stated in the course of these observations, it must appear unnecessary to pass a sen-

* Nouv. Elemens de Med. Operat. 1843, vol. iii.
† Traite des Alterations, &c. p. 437.
‡ Dublin Hospital Reports, vol. v. p. 456.
§ Diseases of Women, p. 187.
‖ Cyclop. of Pract. Med. vol. iv. p. 397.

tence of condemnation upon the practice of removing the uterus, either wholly or partially, when affected with malignant disease. The operation appears to be equally cruel and unscientific."

Professor Simpson has, however, practised the operation for carcinomatous disease, and with considerable success, inasmuch as only one out of eight patients died. Nor did he meet with the sources of danger often enumerated; in one only was the hemorrhage of considerable amount, and in that it was easily restrained by the plug.*

Mr. Moore, of Derry, U. S. removed two and a-half inches of the cervix uteri, for supposed carcinomatous disease, and the patient did well.†

Mr. Atlee performed a similar operation; but after the wound had healed, the patient died.‡

The following are the rules laid down by M. Duparcque, "Sur la necessitè, la contre-indication, ou l'inutilitè de l'amputation du col de l'uterus."

1. Amputation of the neck of the uterus is inadmissable in cases of simple congestion, where the ulceration is not profound; at least we are not to have recourse to it, until the ordinary remedies have all been tried without success.

2. It ought to be rejected or delayed, when the disease, whatever it may be, appears stationary, or when there is hope of preventing its ulterior development by other means.

3. It is quite inadmissable when we have reason to think the disease not confined to the neck of uterus; when the cervix is beyond the reach of the necessary instruments; or if other organs are similarly affected.

4. We must also consider carefully any circumstance which would afford proof of an hereditary predisposition; as, in such a case, a return of the disease will be almost inevitable.

5. Perhaps, also, it might be necessary to defer the operation until age has destroyed such hereditary, organic, or vital predisposition, which may render a relapse equally certain if the operation be undertaken previously.§

In the opinion of M. Pauly, the editor of Lisfranc's work, "of all surgical operations, the excision of the neck of the womb has hitherto been one of the most murderous," ("*une des plus meurtrieres.*")‖

Although I am disposed to agree with the distinguished authors just quoted, I think it my duty to go into some details touching the

* Dublin Journal, Nov. 1846.
† Ranking's Abstract, vol. vii. p. 313.
‡ American Journal of Med. Sciences, July, 1848.
§ Traité des Alterations, p. 541.
‖ Lisfranc, Mal. de l'Uterus, p. 428.

operation, because it has high authority, and because the best check to its being attempted unnecessarily, is a thorough knowledge of the circumstances which are supposed to authorize it, and of the best mode of performance. I would merely wish it to be borne in mind, that I am rather quoting the sentiments of others than giving my own.

260. 1. As the only hope of benefit from the operation rests on the possibility of removing the *whole* of the disease, it would clearly be a wanton barbarity to attempt excision, except when the cervix within reach is alone affected. The limits within which an operation can be safely attempted, are marked by the insertion of the vagina into the superior part of the cervix uteri.

2. Again, it would be useless and injurious, if the surrounding parts (lymphatic glands and cellular membrane) are affected, inasmuch as the fatal progress of the disease would rather be accelerated. The uterus, therefore, should be perfectly moveable. It has been stated, however, that if the enlargement of the lymphatic glands depends upon irritation merely, and not upon deposition, it will subside after the operation, and need be no obstacle to our undertaking it.

3. Congestion of the body of the uterus is contended for by some as an objection to the operation; M. Lisfranc remarks, in answer, that if not excessive, it need not deter us, since to a certain extent it exists in all cases, and subsides spontaneously after the operation.

4. Congestion of the ovaries is not regarded as an obstacle by the daring operator of La Pitié: he argues that as Baron Larrey used the cautery with impunity under such circumstances, no harm will result from excision.

5. Circumstances which would forbid the performance of any of the great surgical operations equally forbid this; such, for instance, as any affection of the thoracic and abdominal viscera.

6. The development of the "cancerous cachexia" already noticed, and the consequent breaking up of the constitution, as indications of an advanced stage of local disease, will, of course, prohibit the operation.

261. If we now enquire in what cases, in accordance with the foregoing observations, the expectation of benefit from this operation may be reasonably entertained, we shall find our range very limited.

1. If we could find a case of cancer in which the deposition should be strictly limited to the cervix, without contamination of the neighbouring tissues, or deterioration of the general health, but which nevertheless presented symptoms justifying our interference, we might be warranted in the attempt. But how exceedingly rare is such a combination! and yet I cannot think the operation justifiable in any other case of cancer uteri than the one just described.

2. It might be worth trying, in corroding ulcer of the uterus: here we have no surrounding deposition; there is no evidence to shew that malignant ulceration would commence in the portion of the uterus

remaining after the operation, if the whole of the diseased part were removed; and if we see the case before ulceration has extended beyond the cervix, and before the health of the patient is undermined."

If there be any case calling for this operation, I think this is one; but even here, so terrible are the consequences, that it is only the recollection of the inevitable death of the patient which could arm the operator with sufficient courage.

282. *Method of operating.* The operation may be performed without depressing the uterus, or that organ may be drawn towards the vulva. The former is said to be the better plan, when the uterus is the seat of fungus or soft cancer; and, for these cases, Dupuytren* invented a species of spoon, with a cutting edge, ("*cuiller tranchante*") and also an instrument consisting of a circle of steel with a sharp inner edge, with a perpendicular handle. The neck is introduced into the circle, and excised by a rotary motion.

Osiander used curved scissors. MM. Hatin and Colombat† have each invented instruments by which the neck of the uterus can be seized and excised.

Dr. Canella‡ has contrived an instrument consisting of a cylindrical speculum, containing a second cylinder, having at its upper border a transverse blade. This being capable of being opened and shut at will, scoops out the cervix, when the inner cylinder is made to rotate. The cervix is fixed by the hook forceps during the operation.

"To avoid laceration from the hooks, M. Guillon has proposed an instrument, which, after being introduced into the uterus, would be so expanded as to preclude the possibility of its slipping out, and afford a secure hold for drawing the whole organ downward. But the objections to this instrument are—1. The difficulty of introducing it; 2. The difficulty of opening it when introduced; 3. The inevitable bruises and lacerations which it would inflict."§

M. Lisfranc draws down the uterus by the forceps of Museux (which are accurately applied by the aid of a bivalve speculum) until the cervix passes through the os externum. The operator then ascertains the line where the vagina is inserted into the cervix, as being the limit of the operation, and then taking a blunt-pointed bistoury, and placing it at the posterior part of the cervix, and at the proper height, he re-

* Duparcque, Traite des Alterations, &c, p. 445.

† Boivin and Dugès, Diseases of the Uterus, p. 245. Lisfranc, Mal. de l'Uterus, pp. 407, 408.

‡ Cenni sull' Estirpazione della bocca del collo dell' utero. Milano, 1821.

See also M. Avenel's 'Memoire' on the treatment of cancerous affections of the cervix uteri. Revue Med. tom. 3, p. 6. Velpeau, Med. Operat. vol. iii. p. 620.

§ Boivin and Dugès, Diseases of the Uterus, p. 245.

moves as completely as possible (from below, upwards) all the diseased portion. The patient is placed as for the operation of lithotomy, and it requires great care to avoid wounding the vulva. If the vaginal orifice be too narrow to permit the passage of the cervix uteri, M. Lisfranc advises the incision of the anterior border of the perineum.* He adds, that the operation is by no means a painful one, the chief distress arising from dragging down the womb.

An ingenious instrument has lately been proposed by Dr. Aronsohn of Strasburgh,† by which the uterus can be seized, and its cervix excised without drawing it down to the vulva.

It is difficult to estimate properly these various methods; probably the one practised by M. Lisfranc is the easiest, and, as far as the operation only is concerned, the safest; but if the cervix uteri have degenerated into a soft mass, it will be impossible to fix the forceps so as to depress the uterus; and a plan like that proposed by Dupuytren must be adopted, if we venture on the operation.

There is one disadvantage attendant upon all *complicated* instruments, viz. that their action is fixed according to their construction, and cannot be varied according to the circumstances of the case; consequently, the remains of the disease are almost sure to be left behind: for this reason, the best instruments that can be used, (and all that are necessary for this operation) are, the blunt-pointed bistoury and the forceps of Museux; which resembles the ordinary dressing forceps, except that each blade terminates in two strong, sharp hooks, curved inwards, so as to interlace with their opposites. A second pair will generally be necessary to secure a firm hold of the parts.

283. Besides the dangers of the operation itself, and these are not trifling even in experienced hands, there are others, the consequences of the operation, and developed subsequently.

1. The patient may die of hemorrhage soon after the operation.

2. Even though there be little loss during the operation, secondary hemorrhage may occur, with fatal effects, though it is not frequent after the lapse of forty-eight hours.‡

3. Inflammation of the womb may take place, and prove fatal by disorganization, or by spreading to the peritoneum. This is especially the case, according to M. Pauly, when the vagina is wounded posteriorly.

4. If any portion of the morbid structure be left behind, ulceration may commence in it and prove fatal, or the surface of the wound may ulcerate instead of healing.§

The hemorrhage must be met by the application of cold to the vulva, the introduction of a plug, or the employment of the actual

* Mal. de l'Uterus, p. 409, et seq.

† Zeitschrift fur die Gesammte Medicin, vol. i. p. 436.

‡ Lisfranc, Mal. de l'Uterus, p. 424.

§ Duparcque, Traite des Alterations, &c. p. 397.

cautery; and any inflammatory symptoms by fomentations, antiphlogistics, and calomel with opium. Should the surface of the wound throw out granulations too freely, they may be repressed by touching them with caustic.

284. II. *Extirpation of the entire uterus.* This very formidable operation has been repeatedly performed, both upon the displaced uterus and upon the uterus "in situ."

The *inverted* uterus has been successfully removed by Gooch, Granville, Rousset, Faivre,* Chevalier,† Baxter, Mullaer, J. Müller, Sorbait,‡ Hunter (of Dumbarton,§) Johnson,‖ Rhemich, Davis, Weber, Cerdeiro, Newnham,¶ Windsor, Joseph Clarke,** Langenbeck,†† Vogtel,‡‡ Laserre,§§ Luytgaerens,‖‖ Mollet,¶¶ Gregson,*** M. Tarral,††† Mr. Higgins of Taunton,‡‡‡ and Dr. Pierson of the United States, &c.§§§

In one instance, the inverted uterus was removed by a midwife; in others it has been torn away.

There are cases on record in which the issue was less fortunate. A case in which Deleurye operated proved fatal after a few days; a similar result followed an operation of the same kind by Baudelocque, Desault, and Buet of Vienna.‖‖‖ Two fatal cases are quoted by Boivin and Dugès, in which the inverted uterus was mistaken for polypus; one at Lyons under the care of Dr. Key, and the other in Paris.¶¶¶

In cases of *prolapse*, the uterus has been successfully removed with the ligature by Gallot, Marschall, Foderè, Recamier, Marjolin, Del-

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* Journal de Med. Aug. 1786.
† See Merriman's Synopsis of Difficult Parturition.
‡ Velpeau, Med. Operat. vol. v. p. 632.
§ Duncan's Annals of Med. vol. iv. p. 366 (1800).
‖ Dub. Hospital Reports, vol. iii. p. 479. Dub. Jour. Mar. 1845.
¶ Essay on Inversion of the Uterus.
** Edin. Med. and Surg. Journal, vol. ii. p. 419.
†† Siebold's Journal, vol. x. p. 57.
‡‡ Ed. Med. and Surg. Journal, vol. ii. p. 421.
§§ Med. Chir. Review, April, 1838, p. 561.
‖‖ Ed. Journal, July, 1840.
¶¶ Annales de Therapeutique, Jan. 1845.
*** London Med. Gazette, Feb. 1846.
††† Journal Hebdom. de Med. vol. v. 1829.
‡‡‡ Edin. Monthly Journal, July, 1849.
§§§ Amer. Journal of Med. Sciences, April, 1849.
‖‖‖ Saltzburg Med. Chir. Zeitung, 1813, b. 3, s. 188.
¶¶¶ See Tarral's Memoire in Jour. Hebdom. de Med. 1829, and Sauter's Memoire, in the Melanges de Chirurg. etrangere. Velpeau, Med. Operat. vol. iii. p. 631.

pech. A similar case by Ruysch, proved fatal. Langenbeck succeeded with the bistoury. Prof. Wrisberg relates a case of its removal by a midwife, with a knife.

When the uterus is "in situ," the operation is, of course, much more dangerous. "Palletta was one of the first, if not the first, who performed this operation, without being aware that he had extirpated more than the cervix uteri. Since that time it has been performed, with a perfect understanding of the case, once by Sauter, twice by Siebold, once by Holscher, four times by Blundell, once by Barnes, once by Lizars, three times by Recamier, thrice also by Langenbeck, once by M. Dubled, once by M. Delpech. Of all the nineteen patients, sixteen died in consequence of the operation, one as late as the fourteenth day (*Langenbeck's*), another on the fourth (*Barnes'*), most of them on the following, or third at the latest; some in a few hours, or even a few moments after the operation."*

Dr. Blundell has performed it four times; one case recovered, three died shortly after the operation. He remarks,‡ "If cancer of the lip may be removed with success, I should be inclined to hope that the same success might attend extirpation of the malignant scirrhus of the uterus."

Velpeau§ says, that the operation has been performed twenty-one times in twenty years, and of all these, not one has been permanently cured.

This operation has been proposed as affording a chance of recovery to persons laboring under cancer or malignant ulceration of the uterus, and also to avoid consequences (ulceration and gangrene) which sometimes follow prolapse or inversion of this organ.

283. (*a*) As to the circumstances which permit or forbid the attempt at extirpation of the uterus "*in situ*, on account of organic disease, they are nearly the same as we mentioned when treating of excision of the neck.

1. The disease must be strictly confined to the uterus, not having infected any neighbouring parts; the uterus must be free and moveable; and the more recent the ulceration, the better.

2. The glands of the pelvis, the ovaries, the bladder, and rectum, must be free from disease.

3. There must be a total freedom from organic disease of other parts.

4. The patient's health should be such as would warrant a grave surgical operation, and therefore it must be undertaken before the setting in of the cancerous hectic.

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* Boivin and Dugès. Diseases of the Uterus, p. 248.

† Diseases of Women, p. 180.

‡ Diseases of Women, p. 162.

§ Med. Operatoire.

(*b*) When the uterus is displaced, it is desirable that the pelvic viscera should be healthy, that there should be no adhesions, and that the health should be good.

But as the operation is so much less serious, our hesitation on account of the condition of the patient would be less.

286. *Method of operating.*—This will somewhat depend upon the situation of the uterus; if *prolapsed or inverted*, it may be removed by a stroke of the scalpel, by ligature, or by the two combined. If in its *natural situation*, careful excision is the only means.

1. If the knife alone be employed in the removal, we should be prepared, in case of hemorrhage, to apply the actual cautery. Care must be taken to remove the intestines from the 'sac' formed by the depression of the uterus; and, if possible, (in cases of prolapse) the peritoneum should be dissected off. In cases of inversion, this is impossible, and patients have recovered without such care.

This is undoubtedly the quickest mode of removal, but it may be questioned, if it be the most prudent.

2. The *ligature* may be single or double, *i. e.* it may either simply surround the pedicle of the tumor, or a double one passing through the centre may divide the mass into two portions, each having its own ligature. Either may easily be applied, and should be tightened every day until the tumor fall off, if the patient will bear it; if not, every second or third day.

It generally causes a good deal of pain, and a dose of opium will be necessary at bed-time.

Care must be taken that no intestines be included in the 'cul de sac' of the inverted vagina.

The length of time which may elapse before the separation of the uterus varies from three weeks to two months.

From the supposed safety of the ligature, it has been preferred by the majority of practitioners, and, as we have already seen, it has been repeatedly successful.

As, however, some unpleasant symptoms arise during the separation of the uterus, when left to the efforts of nature, from irritation and inflammation caused by the fœtid discharges, and the presence of a semi-putrid mass, it has been proposed by some writers to amputate the uterus below the ligature, a short time after it has been applied, by a stroke of the scalpel. If any hemorrhage occur, it can be commanded by tightening the ligature, or by the application of the actual cautery.

It appears to me that this is a far better plan than the use of the knife or ligature separately: it combines the advantages of both, and avoids the inconveniences to which each is liable.

287. *Removal of the uterus when not displaced.*—Recamier* and

* Recherches sur la traitment du Cancer, tom. 1.

Dupuytren advise that the uterus should be drawn down to the vulva, in order to facilitate the operation; but M. Gendrin* opposes this, and recommends instead, that the uterus should be pushed up, "in order to separate the neck of the uterus from the portion of the vagina reflected upon it, and also from the uterine arteries." The next step, according to Recamier and Roux, is to separate the bladder from the uterus; but Dr. Blundell commences posteriorly. M. Gendrin commences laterally, in order to reach and tie the lateral ligaments as quickly as possible.

The following is the account given of M. Recamier's case. The state of the uterus before the operation was as follows:—"The posterior lip of the os uteri was destroyed; the anterior, protruding more than half an inch, was rough, 'bosselée,' and ulcerated internally. The os uteri was wide, and the finger penetrated into the cavity with the greatest facility, owing to the softening of the walls, which were thickened by the development of fungous growths and encephaloid tumors. The posterior wall of the vagina was ulcerated to the extent of an inch. The rectum was healthy, and free from adhesions, as was the bladder also. The abdomen was soft, not tender, the pulse quick, and the tongue clean." The operation having been determined upon, "the patient was placed upon the table as for the operation of lithotomy; the projecting part of the cervix uteri was seized by two pair of Museux's forceps, and gentle traction made, in order to depress the uterus as much as possible. This part of the operation was the most painful. After examining the rectum, M. Recamier proceeded to the excision of the vagina, which he performed with a bistoury, '*en rondache*' at the point where the vaginal mucous membrane is reflected upon the cervix. The finger was introduced into the incision, in order to separate the uterus from the bladder, which was done to the extent of two inches. The peritoneum was next cut across, and then the ligaments of the uterus, by means of a blunt-pointed bistoury. So far the patient did not lose an ounce of blood, and complained very little. The broad ligaments were secured by ligatures applied after their division. This accomplished, the body of the uterus was drawn forward and downwards, the forceps disengaged, and the operator divided the posterior wall of the vagina, as well as any fold of peritoneum which connected the uterus to the surrounding parts, and the removal of the uterus was completed." The operation was successful, and I myself saw this patient in the Hotel Dieu after the parts were healed.†

Langenbeck endeavours to dissect off the peritoneum without wounding it.

The uterus being separated at one part, may either be turned for-

* Journal Gen. de Med., Oct. 1829.

† Archives Gen. de Med. vol. xxi. p. 79.

ward* or backward to complete the separation, or it may remain in its natural situation until completely isolated, and then be drawn straight down. It will be necessary to apply a ligature to the ligament on each side, in order to prevent hemorrhage.

Dr. Blundell thus describes his mode of operating:—"I commenced by passing the index and second fingers of the left hand to the line of union between the indurated and healthy portions of the vagina, and then by taking the stem knife (the description of which is here omitted) in my right hand, I could at pleasure lay the flat of the blade upon the point of these fingers, and urge the point of the instrument a little beyond the tip. The apex of the fore-finger being in this manner converted into a cutting point, by little and little I gradually worked my way through the back of the vagina, towards the front of the rectum, so as to enter the recto-vaginal portion of the peritoneal cavity; frequently withdrawing the stem scalpel, so as to place the point within the tip of the finger; and then making an examination with great nicety, to ascertain whether the vagina was completely perforated. A small opening having been formed in this manner at the back part of the vagina, through this opening the first joint of the forefinger was passed, so as to enlarge it a little by dilatation and slight laceration. This done, I proceeded to make an incision transversely, that is, from hip to hip; for this purpose carrying the finger with its cutting edge from the opening of the vagina already made, to the root of the broad ligament on the left hand side, so as to make one large aperture. I then took a second stem scalpel, having the incisory edge on the opposite side of the blade, and laying this instrument on the fore-finger as before, (in such a manner, however, that the cutting edge lay forth on the other side of the finger,) I carried the finger, thus armed, from the middle of the vagina, where the former incision commenced, to the root of the broad ligament on the right side, so that the diseased and healthy portions of the vagina behind became completely detached from each other. The back of the vagina, then, having been divided in this manner, I urged the whole of the left hand into the vaginal cavity, afterwards passing the first and second fingers through the transverse opening along the back of the uterus; this viscus lying, as usual, near the brim of the pelvis, with its mouth backward, its fundus forward, a little elevated just above the symphysis pubis.

"This manœuvre premised, taking a blunt hook, mounted on a stem eleven inches long, I passed it into the abdominal cavity through the transverse opening, and, with little pain to the patient, pushed it into the back of the womb near the fundus, and then drawing the womb downwards, and backwards towards the point of the os coccygis, as I carried

* Melanges de Chir. etrang. 1824, Geneva.

the fingers upwards and forwards, I succeeded ultimately in placing the tips over the fundus in the manner of a blunt hook: after which, by a movement of retroversion, the womb was very speedily brought downwards and backwards into the palm of the left hand, then lodging in the vagina; where, at this part of the operation, the diseased mass might be seen distinctly enough, lying just within the genital fissure. The process of removal being brought to this point, the diseased structure remained in connexion with the sides of the pelvis, by means of the fallopian tubes and broad ligaments; and with the bladder by means of the peritoneum, the front of the vagina, and the interposed cellular web; parts which were easily divided, so as to liberate the mass to be removed. The broad ligaments were cut through, close upon the sides of the uterus, and in dividing the vagina, great care was taken to keep clear of the neck of the bladder and ureters. Four or five ounces of blood only were lost, and ligatures were unnecessary. The patient suffered very little distress, and recovered easily. The account was published five months after the operation, at which time the patient was doing well.*"

A surgeon of the name of Gutberlat proposed, in 1814, to cut down upon the uterus through the linea alba, and extract it; and the operation has been performed in one case by Langenbeck in 1825, and in another by Delpech. The results were not such as to invite a repetition of the operation. Both patients died very shortly afterwards.†

Dr. Blundell speaks rather more favorably than might have been expected of such an operation; he says,‡ "Might not the womb be taken out above the symphysis pubis, or through the outlet of the pelvis? If above the symphysis pubis, might not the head of the vagina be tied up, and might not the ligature be conveyed by needle into the vagina, so as to hang out at the pudenda? All the parts about the cancerous womb, and the vagina among the rest, are in such a diseased state, that I expect little from this operation, unless early performed; and then, perhaps, Osiander's operation of paring away diseased surface of the ulcer might be preferable; but really the effects of these malignant ulcerations are so deplorable, that I think the propriety of extirpating the womb in these cases ought certainly not to be lost sight of."

M. Dubled has proposed to remove the uterus without injuring the peritoneum; this operation was contemplated by Sauter, and performed by Langenbeck on a case of prolapsus uteri; it is nearly the same as the method of excision proposed by M. Bellini. It consists in drawing

* Lancet, Aug. 9, 1828.

† Boivin and Dugès, p. 248.

‡ Diseases of Women, p. 177. See Siebold's Journal, vol. iv. p. 507.

down the uterus, separating the vagina at its insertion, and then carefully dissecting out the uterus, applying ligatures round the broad ligaments, and dividing them close to the uterus.

288. The dangers attendant upon the removal of so important an organ as the uterus, whether displaced or "*in situ*," cannot be *lightly* estimated.

1. The first danger is from the shock given to the constitution, which may even prove fatal. Dr. Blundell thinks that this is felt the most when the supports of the uterus in the pelvis are divided, and when the mass is extracted from the pelvis. This shock is very slight when the uterus is displaced.

2. Dangerous, or fatal hemorrhage, may occur after the extirpation of the uterus "*in situ*;" when the uterus is displaced, this danger may be avoided by the use of the ligature or the actual cautery.

3. The parts within the pelvis, or the peritoneum, may be attacked by inflammation, compromising the life of the patient. To this, each kind of operation is obnoxious.

4. If the opening of the upper part of the vagina be considerable, the intestines may protrude. This would be remedied by a small sponge-tent.

I have thus endeavoured to describe these two grave operations, *excision* and *extirpation* of the uterus. I have enumerated those who have attempted the operation, as far as I could ascertain their names, and have pointed out the circumstances which have been considered as justifying the attempt, with the different methods adopted for the attainment of their object. If I have merely echoed the opinions of others, it is, I honestly confess, because I have had myself no experience on the subject.

After a careful examination of the results of the operation, when the uterus is "*in situ*," it is really difficult to find adequate reasons in its favor, except the repugnance which every one must feel, to give up entirely the hope of affording relief from the most agonizing sufferings to which the female sex is exposed.

"It is evident that the extirpation of the uterus is one of the gravest and most painful operations in surgery, since it is the most fatal. It ought not to be undertaken except with great prudence, nor unless it is probable that the disease is perfectly moveable. The signs of this limitation of the disease to the uterus, and of its mobility, are to be acquired by the use of every mode of examining the uterus, but, unfortunately, these means are not always trustworthy. Very able men (MM. Sauter and Roux) have overlooked the extension of the disease to the ovaries and fallopian tubes, which are often attacked when the body of the womb is affected. We must conclude that in many cases it will be wiser to abstain from the operation." *

Gendrin.

Our conclusions will be different as regards the removal of a displaced uterus. The operation is far less formidable, is attended with less shock to the constitution, and has been performed repeatedly with the most perfect success. There can be no objection against undertaking it, under favorable circumstances, and when the case may require it.

CHAPTER XX.

DISPLACEMENTS—ANTEFLEXION AND ANTEVERSION OF THE UTERUS.*

289. It may be thought somewhat out of place to treat of some of these displacements here, as they are so intimately connected with pregnancy and parturition; but as they do occur independently, it appeared to me preferable to travel so far out of the way, in order to complete the subject, rather than give a partial view, or omit it altogether.

It is proposed to describe four kinds of displacement, viz.: Anteversion, Retroversion, Prolapse, and Inversion, of the womb.

290. We shall first speak of *anteflexion* and *anteversion* of the uterus, or that displacement in consequence of which the uterus occupies a transverse position in the pelvis, the fundus being towards the symphysis pubis.†

291. *Anteflexion*, or the bending forwards of the body of the uterus upon the cervix, may occur in the unimpregnated state, although I believe such cases to be very rare. *Anteversion* of the unimpregnated uterus, in which the fundus is tilted forwards, and the cervix projected backwards, is said to be more frequent than has been supposed; but I confess I have seldom met with it to such an extent as to cause inconvenience.

Even when the woman is pregnant, this accident is rarely seen;‡

* Burns' Midwifery, p. p. 296. Davis's Obstetric Med. vol. i. p. 571. Blundell, Diseases of Women, p. 20. Boivin and Dugès, Diseases of the Uterus, p. 63. Siebold's Frauenzimmerkrankheiten, vol. i. p. 736.

† Case by Dr. Kyll, Cologne. Siebold's Journal, vol. xvi. p. 1.

‡ "Of this accident I have never seen an instance during gestation, and from the nature of the case it must be very rare; but I have met with it from enlargement of the fundus uteri in the unimpregnated state. The symptoms are, weight in the lower part of the abdomen,

it can only occur whilst the uterus is about the natural size, and in the cavity of the pelvis. There are other circumstances also which preserve the female from this displacement, and which will strike us at once, if we recal the relative position of the uterus in the pelvic cavity. Situated near the level of the upper outlet, it rests anteriorly upon the bladder, and posteriorly is in contact with the rectum. Now the oblique position of the pelvis, when joined to the spinal column, would naturally favor the occurrence of anteversion, were it not that the presence of the bladder, so often distended, offers an obstacle to its descent anteriorly. So long as the bladder contains much urine, this accident may be considered as impossible.

When it does take place, the fundus uteri is directed anteriorly to the inner surface of the symphysis pubis, pressing upon the neck of the bladder; whilst the cervix presses the rectum posteriorly, the uterus lying transversely across the pelvis, instead of being nearly perpendicular.

292. *Causes.*—For the production of anteflexion or anteversion, it is necessary that the fundus uteri should be rendered somewhat heavier than usual, compared with the inferior portion of the organ, or else that a decided tilting forward should be occasioned by a force external to the uterus.† This may be effected in the unimpregnated state by means of chronic enlargement of the anterior wall; by tumors growing from, or imbedded in that part; by great congestion, &c.

If the bladder be empty, and a sudden expulsive force be exerted at the same time, the uterus may be tilted over anteriorly, especially if the ligaments have been relaxed by previous pregnancies.

Pregnancy, by increasing the weight of the fundus uteri, will so far fulfil one of the necessary conditions; but the displacement can only happen during the first two or three months.

In some cases, it has been discovered that the first displacing power resulted from an accumulation of fæces in the rectum, which pressed forward the fundus uteri.

In others, an attack of chronic metritis has rendered the womb top heavy, or the same effect has been produced by a fibrous tumor. A blow, a fall, a shaking in an uneasy carriage, obstinate diarrhœa, have all been enumerated as exciting causes.

293. *Symptoms.*—These are not very marked,‡ except such as depend upon the mechanical disarrangement of parts.

a desire to make water, but difficulty in doing so, the existence of a tumor near the pubis, the direction of the os uteri to the sacrum, and some impediment to the passage of the fæces, with bearing down pains."—*Burns' Midwifery*, p. 260.

† Nauche, Mal. prop. aux Femmes, vol. i. p. 102.

‡ Nauche says, that women may labor under it for years without suspecting its existence.—*Mal. prop. aux Femmes*, vol. i. p. 100.

If great pressure be made upon the neck of the bladder, or upon the urethra, retention of urine may result; but this is rare. The patient complains of some difficulty in passing urine, as well as in going to stool, but assistance is seldom required on this account.* Constipation is sometimes occasioned by the pressure upon the rectum.

The patient feels a great and unusual weight in the pelvis, with a pain in the hypogastrium and the perineum, and a sense of dragging from the loins, all of which are greatly increased by standing or walking. Leucorrhœa sometimes occurs, and occasionally there is some irregularity in the menstrual evacuation.

If an *internal* examination be made, the pelvis will be found blocked by a tolerably dense body—the uterus: the fundus will be found anteriorly, and the cervix posteriorly.

If the *uterine* sound be used, it will not pass in the usual direction, but it will require the point to be directed much more forward, and almost horizontally. This, however, must not be used when there is a suspicion of pregnancy.

If a catheter be introduced into the bladder, it will impinge upon the displaced fundus, and this has given rise to a suspicion of stone in the bladder. There is, however, no sound resulting from the contact, nor is the touch like that of stone.

If the displacement be not remedied, the anterior wall of the uterus generally becomes the seat of engorgement and inflammation.†

There is a slighter degree of displacement in the same direction, which takes place sometimes in the later months of pregnancy, and is called *anteflexion* or *anterior obliquity*.‡ It occurs in first pregnancies, from the natural obliquity of the uterus, and also after many child-bearings, from the relaxation of the abdominal parietes allowing the uterus to fall forward.

The os uteri is situated near the promontory of the sacrum, and is sometimes difficult to find. This has led to the supposition of certain cases being examples of imperforate uterus.

The symptoms, in some respects, resemble those already described, but in themselves they are of little consequence; our main attention will be directed to the effect of this displacement in retarding labor; "by forcing down a segment of the os uteri between itself and the ossa pubis, this portion of the uterus usually becomes tumified

* Capuron, Mal. des Femmes, p. 293.

† Mal. prop. aux Femmes, vol. i. p. 101.

‡ "This is not a very unusual occurrence in women with wide pelves, and it always occasions a slow labor, especially if it be a first child."—*Merriman's Synopsis of Difficult Parturition*, p. 65.

and indisposed to dilate; and the action of the uterus grows irregular, spasmodic, and more acutely painful." *

294. *Diagnosis*.—1. Levret confessed that the only case of anteversion he met with, he mistook for a stone in the bladder; and the mistake was corrected only by a *post mortem* examination, the woman having died after the operation for stone.† The introduction of a sound into the bladder, conjoined with a careful *vaginal* examination, ought to guard against this error.

2. From *retroversion*, it will be distinguished by the greater bulk being anteriorly, and by the cervix uteri posteriorly.

3. From *pelvic tumors*. Great difficulty may be experienced in the diagnosis; but if we can find the os uteri posteriorly, and so trace the cervix and body continuously across the pelvis, we may be pretty sure that the case is anteversion of the uterus.

4. From an *ovarian tumor*, by its sensibility, its history, by the presence of the os uteri, and by tracing the uterus across the pelvis.

295. *Treatment*.—Many of the slighter cases rectify themselves, aided, on the one hand, by the filling of the bladder, and on the other, by the efforts to empty the rectum.

When caused by chronic metritis, the appropriate antiphlogistic treatment, by relieving the disease, will allow the uterus to resume its natural situation.

If we are obliged to interfere manually, the reposition seldom offers very serious difficulties. The cervix should be hooked down with the forefinger of one hand, whilst with the other, the fundus uteri is to be gently elevated.

The utmost tenderness must be used, and the patient kept in bed for some days, lying on her back.

Sponging with cold water, 'douches,' or cold vaginal injections, will aid in restoring the tone of the vagina.

Nauche speaks of using a pessary "*à bilboquet*," with the upper part hollowed to receive and retain the cervix uteri: but this will very rarely be necessary.

Other inventions are reported, by which the sterility resulting from the disturbed relations of the parts may be prevented.‡

As to the anterior obliquity occurring at the end of pregnancy, and interfering with parturition, Dr. Merriman observes,§ "This kind of labor is best relieved by time and patience. It has been thought advantageous for the patient to *take her pains* lying on her back; for, as the belly is very pendulous over the symphysis pubis, this position rather takes off the pressure, which the uterus, interposed

* Merriman's Synopsis, p. 14.
† Capuron, Mal. des Femmes, p. 292.
‡ Nauche, Mal. prop. aux Femmes, vol. i. pp. 104, 105.
§ Synopsis of Difficult Parturition, p. 66.

between the edges of the pubes on one side, and the head of the child on the other, has to suffer, and by which cramps and spasmodic pains are generally produced." This, in many cases, is rather inefficient management; and delivery, without further assistance, is at the expense of some hours to the patient.

Dr. Hamilton's advice is more in accordance with my own experience, when he remarks:* "The effectual means of giving relief is, during the pain, to press up the band of the uterus, which is between the head and the pubes. When that is effected, the band next the sacrum is to be pressed upon, and whenever it yields, the difficulty is overcome, the infant rapidly advancing."

CHAPTER XXI.

RETROFLEXION AND RETROVERSION OF THE UTERUS.†

296. When treating of anteversion in the last chapter, it was seen that the uterus was situated in the middle of the pelvis, resting anteriorly upon the bladder, and by it upheld against the obliquity resulting from the junction of the pelvis and spine. It can easily be understood, that if the perpendicularity of the uterus be destroyed, either by an alteration in the relative situation of the pelvis, or by the extraordinary distension of the bladder; and if, at the same time, the bulk

* Practical Observations, Part I. p. 232.

† King's Essay on Retroversion. Med. Comment. vol. iv. pp. 173, 176, 177; vol. vi. p. 215; vol. xx. p. 254. Annals of Med. vol. iv. p 284. Denman's Midwifery, p. 89. Burns' Midwifery, p. 279. Campbell's Midwifery, p. 529. Davis's Obstetric Med. vol. i. p. 589. Astruc, Diseases of Females, vol. ii. p. 227. Blundell, Diseases of Women, p. 4. Ingleby's Facts and Cases, &c. p. 65. Boivin and Dugès, Diseases of the Uterus, p. 72. Martin's Memoirs, p. 137. Siebold, Frauenzimmerkrankheiten, vol. i. p. 739. Hooper, Med. Obs. and Enquiries, vol. v. p. 378. Mr. Bird, vol. v. p. 110. Garthshore, vol. v. p. p. 381. Hunter, vol. v. p. 388. Bell, Med. Facts and Obs., vol. viii. p. 32. Ed. Med. and Surg. Journal, vol. xviii. p. 520. Lond. Med. Jour. vol. i. p. 392; vol. iii. p. 348. Croft, vol. ii. p. 380. Dewees' Essays, p. 263. Schupmann, Siebold's Journal, vol. xvi. p. 45. Johnson, Med. Chir. Rev. 1837. Thompson, Lancet, Oct. 19, 1839, p. 120. Lacroix, Annales de Chirurg. April, 1845.

and weight of the fundus uteri, compared with that of the cervix, be increased, a very slight forcing downward will tilt backwards the fundus; and, if the pelvis be of the full size, the fundus will be depressed below the promontory of the sacrum.

This displacement is called *retroversion* of the uterus, and is exactly the opposite of anteversion.

It would appear that the ancients were not ignorant of its occurrence,* though their views were very indefinite; but their successors lost sight of it altogether, and the labors of William Hunter (1754), in this country; Desgranges (1715), and Gregoire (1746), in France; and Richter in Germany, threw a new and more accurate light upon this hitherto obscure displacement.

The following is Dr. Gooch's abridgment of the case which first drew Dr. William Hunter's attention to this displacement in the year 1754:—"A poor woman in London, about four months advanced in pregnancy, was suddenly seized with retention of urine. She sent for Mr. Walter Wall, a medical practitioner, who passed the catheter and relieved her; but the impediment continued, and it being again necessary to employ the catheter, Mr. Wall, on this occasion, made an attentive examination, with a view to discover the nature of the obstruction. He passed his finger up the vagina, the course of which, instead of being upwards and backwards towards the sacrum, was upwards and forwards against the pubes. He could not feel the cervix uteri, but he discovered a tumor at the posterior part of the vagina, which, on the introduction of the finger into the rectum, was found to be between the gut and the vagina. The lower portion of this tumor being projected towards the pubes, the impediment to the evacuation of the bladder was supposed to be occasioned by its pressure on the urethra. Mr. Wall, finding the case of his patient corresponded with the description of retroversion of the uterus, as given by M. Gregoire, endeavoured to replace the uterus, but without success. He then sent for Dr. William Hunter, who, upon examination, found the relative state of the parts to be that which has been just described. On raising the tumor, the urine dribbled away. Dr. Hunter endeavoured to restore the uterus to its natural situation, but failed: there was obstinate constipation; and in a few days the patient died. On examination after death, the bladder was found distended, the cervix uteri was turned upwards and forwards against the symphysis pubis, and the fundus had fallen downwards and backwards into the hollow of the sacrum, where it was so impacted as to be with difficulty dislodged."†

The case is related by Dr. Hunter himself, in an appendix to a

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* Dict. de Sciences Med. vol. xxiii. p. 237, art. Hysteroptose.

† Gooch's Lectures, edited by Mr. Skinner, p. 117.

similar case of Mr. Lynn's, in the 4th volume of the Medical Observations and Enquiries, pp. 338, 400.

297. In very recent times, indeed within the last five or six years, since so much attention has been directed to the elucidation of female diseases, it has been found that the displacement is not necessarily connected with pregnancy, but may occur at any period of life. By Dr. Protheroe Smith and others, we are told that retroflexion or retroversion is one of the most frequent diseases to which females are subject. With this opinion I cannot at all agree. I cannot pretend to fix the amount of change of position which the uterus may undergo without inconvenience, but beyond these limits, I think so remarkable a displacement, involving inconvenience and local distress, and necessarily leading to an examination, could hardly be very frequent without my having met with many cases. I have been observing carefully, now many years, and yet the cases of retroflexion or retroversion that I have seen in the unimpregnated state have been very few. I am disposed to think that the uterus, especially in women who have had children, has a wider range of position (without inconvenience) than we suppose; and that perhaps these deviations may have been mistaken for disease.

In this view I am happy to have the support of Drs. Ashwell, Meigs, Oldham, &c. I have repeatedly enquired of different practitioners of this city, of great observation, and I do not find their experience different from my own.

I shall endeavour to lay before my readers the history of the disease, from the writings of Drs. Beatty, Simpson, Smith, Hensley, Lee, &c. premising that there is some little confusion in the meaning attached to the term; some understanding *retroflexion* to be a folding back of the body of the uterus upon the cervix; others, a turning backwards and downwards of the entire uterus. Dr. Simpson considers retroflexion and retroversion to differ in degree only. It may assist us to limit ourselves here to the term retroflexion.*

298. I. *Retroflexion* of the uterus, then, may occur at any period after puberty, but it seems much more common after childbearing, or abortion. Velpeau saw fifteen cases in which the unimpregnated uterus was thus displaced, but they were after parturition. Dr. Davis thinks that it may be either "congenital malformation, or the result of disease."

Dr. Beatty considers that the point of flexion is where the neck and body of the organ join.†

299. *Causes.*—It would appear essentially necessary for the production of this disease, that the fundus or body, and especially the posterior wall, should be increased in bulk and weight. Congestion,

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* Lacroix, Annales de la Chirurgie, April, 1845.

† Dublin Journal, Nov. 1847.

hypertrophy, tumors, &c. may effect this, and then the uterus may either fall back from being top-heavy, or will be turned over by a slight expulsive force, long standing, long walking, &c.

The state in which the uterus is left after delivery or abortion, will also favor this displacement, if the patient remain too long in the upright position.

300. *Symptoms.*—In some cases, as Mr. Hensley observes, no appreciable symptoms are produced, except, perhaps, a greater flow of the menses, and a greater tendency to abortion in the married female.* It is often very difficult to trace the origin of the affection; it comes on so gradually, that it is only when permanent, and after some time, that it excites any influence, local or general. In other cases, the patients appear to have had a sensation of depression or falling down of the womb; either suddenly, or gradually supervening, with nausea, vomiting, and sometimes syncope, pain, or dragging down in the groin or sacrum.†

The retroflexion becoming permanent, or increasing, produces occasionally some pain, and difficulty or frequency in micturition, though never retention of urine. The patients complain likewise of a dull, aching, constant pain in the back, probably from the pressure of the fundus uteri on the sacral nerves. The pain extends down the thighs, and there is a sense of weight in the rectum, with some difficulty in defæcation, as in Dr. Beatty's cases.

There is generally profuse leucorrhœa when the disease has existed for some time, and menstruation may be profuse, or painful, or both; but whether as cause or effect, is not always easy to decide.

The general health at the same time suffers more or less; the stomach becomes disordered, the bowels constipated, the spirits depressed, and hysterical symptoms often occur. The distress is greatly increased by standing, walking, or any great effort, and the patient is oppressed with langour and weakness.

301. On making a *vaginal* examination, the finger impinges upon a solid body, blocking up the passage. The cervix uteri may either be found nearly in its natural situation, or more anteriorly; and if we trace back we shall find, by the continuity of structure, that the posterior tumor is the fundus uteri. This tumor may present various degrees of depression, and its junction with the cervix uteri an angle more or less obtuse. I need not say that the tumor formed by the fundus uteri is between the posterior wall of the vagina and rectum. An examination *per rectum* will add further confirmation. But the demonstrative proof is furnished by the uterine sound: when it is passed into the cervix in the usual way, i. e. with the concavity of the curve looking forward, it is immediately stopped; nor can it be passed farther

* Provincial Med. and Surg. Journal, Jan. 12, 1848.
† Professor Simpson. Dublin Journal, May, 1848.

until its position is reversed, and its point directed backwards, when it immediately passes into the tumor felt in the pelvis, proving it to be the fundus uteri. Moreover, by turning the instrument gently and gradually round, so as to bring the point upwards and forwards, at the same time assisting the elevation of the fundus with the forefinger of the left hand, we shall find that the tumor disappears, the uterus having resumed its natural situation. This use of the uterine sound generally occasions no pain if care be used, but if handled roughly, much pain and mischief may be the result.

Mr. Hensley remarks, that in the examination per rectum, the pressure of the finger on the fundus above occasions no pain; but if we elevate it, the patient immediately complains; and by passing the finger beyond the depressed fundus, we can discern the exact seat of pain to be the posterior and upper part of the fundus, in the situation of the ovary, which we can often feel as an oval body.

The most important consequence of retroflexion is sterility, it is very unlikely, not to say impossible, that impregnation should take place when retroflexion exists, because of the mechanical difficulties. Dr. Rigby states that retroflexion induces engorgement and chronic inflammation of the ovaries, particularly of the left one. Of thirteen cases, he says the fundus uteri was flexed towards the left in nine, and that it thus presses upon the left ovary, and excites morbid action.

It may also give rise to congestion of the cervix uteri, with erosion. A more remote, but distressing result, is the impaired health which gradually follows this displacement.

302. *Diagnosis.*—Mr. Safford Lee has enumerated the following diseases, with which retroflexion may be confounded:*

1. With *retroversion:* from which it may, however, be distinguished mainly by the cervix uteri being directed downwards, instead of forwards to the pubis, and by the angle formed by the bending of the body backwards.

2. With an *ovarian tumor:* but by means of the uterine sound we can ascertain whether the tumor be the uterus or not. There will, of course, be a difficulty when retroflexion and ovarian enlargement coexist, as is the case sometimes; but still we shall be able to isolate the uterus as it were with the sound, so as to ascertain that the excess of bulk is ovarian.

3. With *fibrous tumor of the posterior wall of the uterus.* No examination with the finger could make a correct diagnosis in such a case, because we should find the tumor, and the angle of deflection from the cervix well marked; but the uterine sound will pass in the usual position and direction, which it never will in retroflexion.

303. *Treatment.*—In many cases, I am sure that rest, local blood-letting, astringent injections after reposition of the uterus, &c., will be as effectual as Dr. Beatty found them in his cases; but the rest should

* Med. Gazette, June 29, 1848.

be very prolonged, and taken in a horizontal position, lying on the face. The blood-letting may be effected by leeches or scarification, and in addition, the general health must be attended to.

But in cases of extreme deflection and of long standing, although the womb be replaced, it soon falls back, and no ground appears gained. For such we should naturally suppose that some mechanical support is required; and to attain this end, Dr. Simpson has constructed several pessaries, the principle of which is, that a metallic or ivory stem is to be introduced into the uterus, and this being attached to a support below, the womb is thus maintained in its proper position.

At first sight, the contrivance seems exactly suited for the purpose, but experience has shown that it cannot always be used with impunity or safety. Dr. Simpson, Dr. P. Smith, Mr. Hensley, and Mr. Lee speak highly of its value; but Dr. Ashwell mentions some cases in which great suffering resulted from its use, and Dr. Oldham mentions others where death was the consequence. Two cases have been mentioned to me, in which the instrument was introduced; but it occasioned such agony, that it had to be withdrawn in both within twenty-four hours.

Upon the whole, therefore, I should feel great hesitation in recommending such an instrument, although it must be admitted that some contrivance for this purpose is very desirable. If it be used, the patient should be kept very quiet, very carefully watched, and the instrument removed if it occasion any pain.

304. 2. *Retroversion.* Let us now consider retroversion as it occurs n the pregnant condition.

In this displacement, the cervix will impinge upon the urethra somewhere about its junction with the bladder, the posterior lip of the os uteri will become inferior, and the uterus will occupy the pelvis horizontally in its antero-posterior diameter.

I was lately called to a case in which the natural position of the uterus was nearly reversed: the fundus uteri being downwards between the vagina and rectum, and the cervix upwards towards the bladder, but not pressing upon the neck, and admitting of the easy introduction of the catheter.

The position of the vagina is peculiar: the posterior wall is depressed, in consequence of the fundus falling between it and the rectum, whilst the projection of the cervix carries forward the anterior wall; its direction, therefore, instead of being from before, backwards towards the sacrum, is really upwards and forwards to the symphysis pubis.

The disease is not very frequent: it most generally happens whilst the uterus is within the cavity of the pelvis, or before the eighteenth week.

The amount of backward depression may vary a little, but, to constitute retroversion, the fundus must be below the promontory of the sacrum.

It may occur either suddenly or gradually, according to the character of the exciting cause.

305. *Causes.*—Jourdan considers a large pelvis, and the too great prominence of the sacral promontory, as predisposing causes; and he also remarks, that thin women are more liable to it than fat ones.

Prolapse of the posterior wall of the vagina may affect the perpendicularity of the uterus.

Amongst the more direct causes, are those which render the fundus uteri disproportionately heavy, and consequently the balance of the uterus easily disturbed; such, for instance, as early pregnancy, moles, a tumor* whether pediculated or not, and extra uterine pregnancy.† I have known retroversion to happen the first day of a menstrual period, when the weight of the uterus was increased by the afflux of blood.

M. Pearson and Dr. Blundell met with cases of retroversion caused by scirrhus.‡ Callisen and Blundell mention cases where this accident followed delivery; but such must be exceedingly rare.

The important consequences resulting from effects of a distended bladder have already been mentioned; in the majority of cases, it will be found that the urine has been retained for many hours. Dr. Blundell§ says that an enlarged ovary may act in the same manner; and I have seen similar effects produced by a large tumor in the upper part of the pelvis.

When any one or two of these conditions co-exist, it then only requires some force pressing the contents of the pelvis suddenly downwards, to complete the retroversion; and this is generally afforded by

* Brown, Dub. Journal, Jan. 1838, p. 356.

† Med. Chir. Rev., Jan. 1837, p. 207.

‡ Pearson on Cancer, p. 113. Blundell, Diseases of Women, p. 18.

§ "A lady, labouring under ovarian dropsy, was recommended to take a ride in an open carriage every day, for the improvement of her health, taking the air as much as might be, without occasioning much fatigue. In one of these excursions the vehicle chanced to be turned over, and she was thrown out with violence, her abdomen striking, with great force, against a stone that was lying by the road-side. On her return home, a very copious secretion from the kidneys ensued, with great abdominal pain; when, in the course of a few days, she recovered, and found herself entirely liberated from the dropsy. Some time afterwards she entered into the married state, and died with an irreducible retroversion of the uterus, about the fourth month. Inspection was made, when it appeared clearly, that in consequence of the fall, there had been a rupture of the ovarian cyst, and a flow of water into the peritoneal sac; whence it was absorbed and effused by the kidneys, the remains of the cyst falling on the uterus, and carrying

violent efforts at lifting weights, vomiting, or evacuating fæces.* A fall or a blow may also give rise to it.†

If the uterus be once partially retroverted, the symptoms (bearing down, &c.) which result will speedily complete the displacement.

306. *Symptoms.*‡—The most distressing symptom, that which first attracts the patient's attention particularly, and the one on account of which we are consulted, is a partial or complete retention of urine.

"I wish it to be understood, however," Dr. Blundell observes, "and very important it is that this should be known, that, in the retroversion of pregnancy, you have not always, nor, I think, generally, these *complete retentions* of urine; for, often where the uterus is retroverted, the retention is partial." "Day after day the fluid is sparingly emitted, but never in such quantity as to empty the bladder completely, till by and bye perhaps the secretion begins to steal away involuntarily, or she may have strong efforts to pass the urine, even against her will, and with every effort a small gush only may be produced, or there may be a continual dripping; and yet, notwithstanding all this, an accumulation of water may go on very gradually, so that several pints, nay several quarts, may be gradually accumulated. At this time, there may be œdema of the lower limbs, especially if your patient be in a state of gestation; and you, for the case is extremely deceptive, finding that the legs are œdematous, that the abdomen is large, as in the case of ascites, that it is fluctuating with distinctness, and that the patient, instead of having a retention of urine, on the contrary, supposes herself to labor under an incontinence of water, the retention of the secretion may be the last disease which you suspect, and you are inclined to ascribe all the symptoms to ascites, ovarian dropsy, dropsy of the ovum, or other causes. If you err, nothing is done, and

it down below the promontory of the sacrum, which being retroverted, was fixed by inflammatory adhesion in the retroverted position. While this unhappy lady remained unmarried, she felt but little inconvenience, but marrying, and the enlargement of the uterus taking place, the womb, in consequence of adhesion, not admitting of replacement, a fatal pressure of the contiguous parts ensued."—*Blundell on Diseases of Women*, p. 6.

* Marcet in Sir A. Cooper on Hernia, vol. ii. p. 68.

† Dugês, Nouv. Dict. de Med. et de Chir. pratique, art. Retroversion.

‡ Nauche says that retroversion may happen without giving rise to any symptoms; but that such cases must be very rare, a consideration of the mechanical disturbance alone will convince us.—*Mal. prop. aux Femmes*, vol. i. p. 106.

Capuron observes, that as some time elapses before the accumulation of urine becomes distressing, the symptoms during that period will be much slighter than subsequently.—*Mal. des Femmes*, p. 285.

the bladder may burst. Even when the bladder is emptied, chronic disease is to be expected, or there may be a fatal inflammation, or a miscarriage. In cases of this kind, the urine may continue to accumulate for three or four weeks together."* It is important to remark, that an examination, *per vaginam*, should never be omitted in a case of dysuria occurring in early pregnancy. If the retention have continued for some time, the distended bladder may be felt rising above the brim of the pelvis.

The pressure of the fundus uteri upon the rectum more or less completely arrests the passage of the fæces through that intestine, and we find either constipation or a difficulty in going to stool.

Dr. Hunter observes, that all the cases he had seen "happened about the third month, sooner or later, and they all brought on a difficulty, and gradually a suppression, first of urine, and then of stools likewise." "When such suppressions once begin, they aggravate the evil, *not* merely by causing pain, but by occasioning a load of accumulated urine and fæces in the abdomen, above the uterus, which presses it still lower in the cavity of the pelvis, at the same time that the distension of the bladder in this state draws up that part of the vagina and cervix uteri with which it is connected, so as to throw the fundus uteri still more directly downward."† In Dr. Marcet's‡ case, constipation and vomiting were prominent symptoms.

The patient complains of a weight and fulness in the pelvis, a dragging from the loins, and a constant effort at forcing down, resembling labor pains, and exciting fears of abortion.

This distressing state cannot continue long without exciting severe and formidable constitutional suffering. The patient loses her appetite, complains of violent pain, the pulse becomes very quick, fever sets in, with thirst, loaded tongue, hot skin, restlessness, &c. The action of the intestines is sometimes inverted, and a vomiting of stercoraceous matter takes place.

If the distension of the bladder be not relieved, the walls will give way, and its contents, discharged into the peritoneum, will excite fatal peritonitis.§ But if just so much urine escapes as will prevent this frightful termination, the patient's life may be compromised by the fever, or ultimately by inflammation of the uterus, and by gangrene.‖

"Retroversion of the uterus," says Dr. Gooch,¶ "may terminate

* Diseases of Women, p. 7.

† Med. Observations and Enquiries, vol. iv. pp. 406, 407.

‡ Cooper on Hernia, part ii. p. 60.

§ Blundell on Diseases of Women, p. 19, *note*.

‖ Capuron, Mal. des Femmes, p. 286.

¶ Lectures on Midwifery, &c. edited by Mr. Skinner, p. 119.

fatally by one of three modes; either by irritation, by inflammation, or by sloughing of the bladder. In the first instance of this kind which I ever saw, death was produced by inflammation. The patient was in the fourth month of pregnancy. She had been suffering from retention both of urine and fæces nine days, and her abdomen was immensely distended. The village apothecary had been giving her nitrous æther as a diuretic. I introduced the catheter, by keeping the point close against the pubes, and drew off several quarts of urine, with which were mixed puriform and bloody streaks. She suffered great pain in the region of the bladder, accompanied with the usual symptoms attendant on inflammation; but, in spite of bleeding and purgatives, she died. On examination, the uterus was found to participate in the inflammation of the bladder; it was still retroverted, though labor pains came on, and she miscarried soon after the urine was drawn off."

If an *internal* examination be made, the direction of the vagina will be found to be forwards to the pubes, instead of backwards to the sacrum; the posterior wall is thrown into folds, whilst the anterior is more upon the stretch; behind the posterior wall, between it and the rectum, a large tumor may be felt, continued across the pelvis, and terminating anteriorly against the pubes—this is the uterus. It is rarely possible to pass the finger beyond the lower surface of the uterus.

Some difficulty will be found in attempting catheterism; it will be necessary to keep the point of the instrument close to the symphysis pubis, and to be exceedingly gentle in pressing it forwards.

The size of the womb will depend upon its being empty or not, and upon the period of gestation, if impregnated.

A *post-mortem* examination reveals the displacement, and in addition, the cause of death, whether that be the inflammation of the bladder and uterus, or rupture of either, and consequent peritonitis.*

307. *Diagnosis.*—The most characteristic symptoms have already been stated to be the sudden and more or less complete retention of urine, and the constipation. These ought always to lead to an examination, and then the mechanical cause (the displacement) will be detected.

1. *From anteversion.* The os uteri is anteriorly instead of posteriorly, and there is retention of urine more or less complete.

2. *From pelvic tumors.* At first this distinction is not easy, but if we can find the os uteri, and then trace the uterus, we can make out whether it is retroverted or not. We may often also distinguish the retroversion from the pelvic tumors, when they co-exist. Pelvic tumors do not often occasion retention of urine, except when they are too large to be mistaken for retroverted uterus.

Nauche relates a case which was supposed to be retroversion, and in consultation about which, it was determined, as a last resource,

to puncture the uterus, all efforts at reposition having proved unavailing. The patient died, and upon examination it turned out to be a case of extra-uterine fœtation; the sac containing the fœtus having descended into the pelvis. A fistulous communication had taken place naturally between this tumor and the rectum. In such cases, a correct diagnosis must be very difficult of attainment; happily, they are very rare.*

These observations will also apply to the distinction between retroversion of the uterus and ovarian dropsy; and in addition, the gradual growth of the latter is opposed to the suddenness with which the former is produced.

3. The distended bladder might be mistaken for *ascites*, but its sudden production, defined shape, and, above all, catheterism (when possible) will mark the distinction.

308. *Treatment.*—All writers agree in the *first indication*, viz. to restore the uterus to its natural position: this, however, is not easy in most cases, nor is it to be attempted in the first instance; we must previously introduce the catheter if possible, and draw off the water. It has been truly said, that in some cases the womb has righted itself after this operation, or at any rate after the evacuation of the contents of the uterus; but that such cases must be rare will be plain, if we consider the mechanical impediment to the reposition.†

"After the case was suspected from the suppression of urine, and then certainly known by the examination with the finger, both in the *vagina* and *rectum*, the urine was first completely drawn off by the catheter; then a sufficiently stimulating clyster was thrown up; and after the bowels were well emptied, it was always found easy to replace the *uterus*. In one instance, the *uterus* of itself recovered its natural situation, immediately after the above-mentioned evacuations had taken place. In another case, there were several relapses before the uterus grew so large that it could no longer fall back."‡

"Should you fail in this attempt at reduction, under gentle efforts, I should then recommend to you an excellent practice, advised by Denman. This consists in keeping the bladder thoroughly emptied, letting the patient drink but little, causing her to perspire as much as may be, and introducing the catheter some two or three times a day; the bladder being kept empty, the woman is placed with the pelvis inverted, for which purpose she ought to take her position on the knees and elbows. The longer time she passes in this posture, the better; it may be necessary to use it for hours together. She is not to give

* Mal. prop. aux Femmes, vol. i. p. 108.

† Ingleby's Facts and Cases, p. 67.

‡ Dr. Hunter's remarks on Mr. Wall's case, in Med. Obs. and Enq. vol. iv. p. 408.

way merely on account of the fatigue, but to continue it as long as the replacement may require. Adopting this plan, the bladder being empty, the womb will sometimes return to its natural position, may be immediately, may be in an hour or hours; but I think I may venture to add, that it pretty certainly returns at last. To this mode of treating the disease I am exceedingly partial, because it requires nothing more than the introduction of the catheter, and the abstraction of the urine; there is no introduction of the hand into the vagina; no entrance of the fingers into the rectum, no force, no contusion, and no lacerations."*

If there be evidence of inflammation going on in the uterus or neighbouring parts, as is sometimes the case, it may be well to take away some blood from the arm, and to foment the external parts, or prescribe a hip-bath before attempting a reposition of the uterus.

After this preparation, or without it, if it be unnecessary, one or two fingers of one hand are to be then introduced into the vagina or rectum, for the purpose of elevating the fundus, and of the other into the vagina, for the purpose of depressing the cervix.†

When one finger into the rectum is insufficient, it has been proposed to pass the whole hand; but it may be questioned whether mischief rather than good would not result from so violent a proceeding.

The uterus must be pressed forward, and then upward, in order to clear the promontory of the sacrum.‡

Others conceive that the fingers introduced into the vagina, and directed towards the sacrum, would be able in some cases to elevate the fundus.

It is very difficult to pass the finger beyond the cervix uteri in the vagina, so as to hook it down; and it appears to me that we should be fully justified in using a pair of hooked forceps. I am not aware that this plan has been tried, but it seems to meet one very desirable object, viz. the being able to depress the cervix prior to the elevation

* Blundell on Diseases of Women, p. 11.

† See Lyne's case in Med. Obs. and Enq. vol. iv. p. 388. Becher in Stark's Archiv. für die Geburtshülfe, p. 136. Kratzenstein's inaugural thesis, published at Copenhagen, 1782. Vermandois, Journal de Med. vol. 85. Mursinna, Abhandlung von den Krankheiten der Schwangern und Gebärenden, vol. i. p. 58. Haselberg, Untersuchungen und Bemerkungen ueber einige gegenstande der pratischen Geburtshülfe, p. 109.

‡ "As the principal obstacle (says Jourdan) arises from the promontory of the sacrum, we must endeavour to remove the uterus as far as possible from this point, and direct the pressure we exercise upon the uterus, so as to avoid it."—*Dict. des Sciences Med.* vol. xxiii. p. 277. Ingleby, Facts and Cases, &c. p. 69.

of the fundus: if this could be done, there would be little difficulty in the remainder of the operation.

Dugès* recommends the introduction of a sound into the bladder, as an assistance in depressing the cervix.

To obviate the necessity of introducing the hand, and as a means far more effectual for the reduction of the retroversion, Mr. Halpin of Cavan has proposed the introduction of a bladder into the vagina, and its inflation by means of a stomach-pump with an air-tight piston. He tried it, in a case where reduction by other means was impossible, with perfect success. It is a method which should undoubtedly be tried, before other extreme measures are adopted. I give the following extract from the case in which it was employed; after fruitless efforts with the hand, "It suddenly occurred to me," says Mr. Halpin, "that *with the assistance of a bladder I should be able to inflate the pelvis, and thus raise its contents into the abdomen.* We acted on this suggestion. I attached a small recent bladder to the tube of a stomach-pump, with an air-tight piston, and having immersed it for a few moments in warm water, to bring it to the heat of the body, I introduced it empty into the vagina, between the fundus of the uterus and the rectum. Retaining it within the vagina, by holding my hand firmly across its orifice, Dr. F. inflated it slowly and steadily. After a time she complained of tension or bursting, but no pain. We then ceased throwing air into the bladder, allowing what was in already to remain, keeping up, as it did, a steady, equal, well-directed pressure in the tumor. After the expiration of five minutes, we threw more air into the bladder, when the patient exclaimed slowly, 'Oh, now you are forcing something up to my stomach!' I retained the bladder some time longer in its situation, and then, previous to withdrawing it, permitting the escape of some air, I introduced my finger, and had the satisfaction of finding that the tumor was no longer in the pelvis, and that the os uteri lay within reach of my finger, pointing downwards and backwards. I then, and not till then, removed the apparatus."†

When once the fundus uteri has passed the promontory of the sacrum, the uterus is felt to assume its proper position freely.

There is generally a good deal of local and general irritation afterwards. The vagina is hot and tender, the uterus may become inflamed, and the pulse quick, with thirst, &c.; but antiphlogistics, opiates, and quiet, will easily remove these symptoms.

"When the reduction of the uterus has been effected, you should direct your patient to continue in bed for two or three weeks. If

* Nouv. Dict. de Med. et de Chir. prat. art. Rëtroversion.

† Halpin on Retroversion of the Uterus, Dublin Journal, March, 1840, p. 76.

there be any disposition to a return of the retroversion, you should advise her to place herself on the knees and elbows, once or twice in the day, for an hour or more at a time; and you may direct her also to empty the bladder repeatedly in the course of the twenty-four hours, never suffering any large accumulation of urine to take place."*

If she be pregnant, all danger of a relapse will be over when the uterus rises above the brim of the pelvis, and she may then resume her usual occupation; but if she be not pregnant, a longer rest will be necessary.

309. In the case we have just described, the means are supposed to have succeeded, though with difficulty; but there are other cases where the obstacles appear insuperable.

1. It has been found impossible to pass the catheter; and in such a case it has been proposed to puncture the bladder, to avoid the fatal consequences of rupture. Cheston succeeded once in this way.† Pressing the uterus backwards will occasionally liberate the urethra and allow the catheter to pass.

2. Notwithstanding the evacuation of the bladder, all our efforts to replace the uterus in its natural position are sometimes unavailing, because of the bulk it has attained. This only happens with pregnant women, and especially with those in whom the retroversion continues for some time, before relief is sought. In such cases, we are advised to pass a sound through the os uteri (if possible), in order to induce abortion, and so diminish the size of the uterus by evacuating its contents. "In retroversion of the uterus requiring special treatment, it would not, perhaps, be impossible to introduce some small, yet strong instrument into the cavity of the uterus, along the mouth and neck, so as to break up the structure of the ovum, and in that way to give rise to its expulsion. It is very easy to conceive, that if the os uteri could be felt, and if an instrument could be carried into it, with which the ovum could be broken in pieces, an expulsion of the ovum might ensue."‡ Or, if this be impossible, we are advised to puncture the uterus, by means of a trocar, either from the vagina§ or from the rectum.‖ This operation has been performed twice with success.

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* Blundell, Diseases of Women, p. 14.

† *Ibid.* p. 11. ‡ *Ibid.* p. 16.

§ Ingleby's Facts and Cases, p. 75.

‖ "The following question arises from the nature and unhappy event of this case (the one under Mr. Wall's care, quoted before.) Whether it would not be advisable, in such a case, to perforate the uterus with a small trocar, or any other proper instrument, in order to discharge the liquor amnii, and thereby to render the uterus so small and lax as to admit of a reduction? If other methods should fail, I think such an operation should be tried."—*Dr. Hunter, Med. Obs. and Enquiries,* vol. iv. p. 406.

"In a case of retroversion of the uterus, where the catheter could not be introduced, nor the rectum emptied, I should feel myself inclined to consider the propriety of tapping the uterus, which might perhaps be found, on the whole, to be as desirable an operation as tapping of the bladder, or the dividing of the symphysis pubis. I should not like a great trocar and canula, as if I were going to tap in a case of ascites, wounding a great many vessels, and perhaps occasioning death; but I should prefer an instrument of a very small size, by which I could perform a sort of acupuncturation. Perhaps an instrument on the principle suggested might be introduced into the uterus without much danger; and then, if a contrivance were fixed upon the other end of it, so as to bring away the fluid by a sort of suction, it may be that a good deal of the liquor amnii might be drawn off. If the uterus was thus evacuated of the liquor amnii, there would immediately be a considerable reduction of its bulk, and perhaps at length an expulsion of the ovum. The womb might be tapped either from the vagina or the rectum; but vaginal tapping would, I conceive, be preferable."*

3. In these impracticable cases, Callisen suggested the operation of gastrotomy, for the purpose of directly seizing and replacing the uterus. He, Purcell, Gardien, and Cruikshank, also advise division of the symphysis pubis, as affording more room for the reposition of the displaced viscus.

CHAPTER XXII.

PROLAPSE OF THE UTERUS.†

310. VARIOUS are the terms which have been used to designate this displacement. Prolapsus, Procidentia, or Descensus Uteri, are the

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* Blundell on Diseases of Women, p. 15. In addition, the reader may consult Hamilton's Midwifery, p. 155; Edinburgh Practice of Midwifery, p. 99; London Practice of Midwifery, p. 117; Ryan's Midwifery, p. 447; Conquest's Midwifery, p. 47; Ramsbotham's Observations in Midwifery, part ii. p. 429; Asdrubali, Tratato generale di ostetricia, vol. i. p. 288; Siebold's Journal of Midwifery, &c. vol. iv. p. 277; vol. vii. pp. 199, 238, 589, 685, 744; vol. viii. p. 554; vol. ix. p. 751; vol. x. pp. 357, 372; vol. xi. p. 174; vol. xii. p. 182.

† Denman's Midwifery, p. 50. Burns' Midwifery, p. 136. Davis's

most common among the learned, and 'falling down of the womb,' 'bearing down,' among the common people.

It consists simply in a depression of the uterus below its natural level in the pelvis. It is therefore of great importance that we should ascertain and be familiar with the natural situation of the womb.

Astruc's description is pretty accurate; he says,* "The uterus is placed in the middle of the pelvis, in the hypogastrium, with the bottom a little below the level of the bones of the ilion; and the neck at the height of the os pubis, or a little lower."

"In the healthy unimpregnated state of these parts," says Sir C. M. Clarke,† "the uterus is situated nearly in the centre of the cavity of the pelvis, the distance of the os uteri from the os externum being about four inches. The os uteri is not a continuation of the same line with the vagina, but it terminates in the vagina by projecting into it, the outer surface of this projection being covered by a portion of the inner membrane of the vagina slightly over it."

The body of the uterus is apparently supported by the lateral ligaments, whilst the cervix rests upon the vagina, and, as is evident, cannot descend except by pushing the vagina before it, or passing itself into the canal of the vagina.

The ancients doubted the possibility of the occurrence of prolapse, on account of what they deemed the strong support afforded by the ligaments. We not only know that the disease is one of frequent occurrence, but it is even doubted whether the aforesaid ligaments contribute in any degree to prevent displacement.

It occurs in all ranks, and most frequently in females beyond the middle age, who have borne children. The more numerous the children, the more are the passages in a condition favorable to the displacement of the pelvic contents. It is often a consequence of laceration of the perineum.

I have seen it in women who have not borne children, and even in maids.‡

Obstetric Med. vol. i. p. 523. Dewees, Diseases of Females, p. 234. Manning, Diseases of Women, p. 276. Leake, Diseases of Women, p. 127. Astruc, Diseases of Women, vol. ii. p. 201. Baillie's Morbid Anatomy, p. 387. Clarke, Diseases of Females, vol. i. p. 86. Blundell, Diseases of Women, p. 33. Boivin and Dugès, Diseases of the Uterus, &c. p. 42. Siebold's Frauenzimmerkrankheiten, vol. i. p. 742.

* Diseases of Women, vol. ii. p. 201.

† Diseases of Females, vol. i. p. 66.

‡ Mal. des Femmes, p. 301. Kendrick, Medical Gazette, August 13, 1836, p. 774. See also Knox, Med. Chir. Review, January, 1830. Dewees, Diseases of Females, p. 235.

Dr. Alex. Monro has related a case, occurring in a child of three years of age.*

It happens frequently to women after their first confinement, and disappears after the second altogether, owing to the greater or less care bestowed upon their convalescence after parturition.

"Of all the chronic diseases arising from a local cause, to which women in civilized society are liable, prolapsus uteri, or displacement of the womb, is perhaps the most frequent."†

"Every degree of procidentia uteri may be met with, from that case in which the os uteri descends a little lower than its natural situation, to that in which the os uteri projects through the external parts, dragging with it the vagina, and forming a large tumor between the thighs of the woman, equal in size to a large melon. This will cause an alteration in the relative situation of the parts within the pelvis and of the abdominal viscera, both regarding each other, and also the containing parts, as the parietes of the abdomen and the bones of the pelvis. The bladder, instead of being contained in the pelvis, falls down into the external tumor, dragging with it the meatus urinarius; so that in order to introduce a catheter in the bladder, the point of the instrument must be turned towards the knees of the women; for, being placed in the usual manner in which that instrument is introduced, it will enter the passage, but it cannot be made to pass into the bladder in that direction. The rectum, instead of taking the sweep of the sacrum, first dips down into the posterior part of the tumor, and afterwards ascends into the pelvis. The fallopian tubes and ovaria will, of course, be dragged down with the uterus, and the centre of the tumor will be filled up by the small intestines which hang down into it (the mesentery being stretched); whilst the omentum will occupy any vacant space which may be left."‡

Some authors have adopted the division made by Astruc§ into three degrees. 1. Depression of the uterus, or incipient procidentia—where the os uteri is felt to be lower than usual in the pelvis. 2. Procidentia—when the os uteri rests upon the perineum, and the body of the uterus occupies the cavity of the pelvis. This is the most frequent, as it may be years before it protrudes through the os externum. 3. Prolapsus—when the uterus is completely protruded through the external orifice of the vagina, everting the bladder and vagina.‖

The distinction proposed by Manning is, however, sufficient, as it

* Edinburgh Medical Essays, vol. iii. p. 282.

† Hamilton, Practical Observations, part i. p. 1.

‡ Clarke on Diseases of Females, vol. i. pp. 67, 68.

§ Diseases of Females, vol. ii. p. 202.

‖ Denman, Burns, and F. H. Ramsbotham, call the second degree of displacement, prolapsus; and the third, procidentia. Denman's

is not always easy to distinguish between the depression and procidentia. "The disease has been commonly distinguished into the *perfect* and *imperfect prolapsus*. It goes by the former of these names, as long as the uterus, though advanced considerably downwards, continues to remain within the cavity of the vagina; and by the latter, when it has descended below the orifice of that canal, so as to appear entirely without the pudenda."*

311. We shall therefore consider *imperfect prolapse*, or *procidentia*,† and *perfect prolapse*, and we shall find that the symptoms of each differ little, except in intensity.

Either degree of depression may occur under the following circumstances:—

1. The uterus being of a natural size, and having never been impregnated.‡

2. The uterus being unimpregnated, but labouring under certain diseases which augment its volume and weight, such as fibrous or polypous tumors, moles, hydatids, scirrhus, &c.

3. In early pregnancy, from the additional weight of the uterus.§

Dr. Gruhn of Reppen relates the case of a woman, æt. 28, who, when in the fourth month of pregnancy, in consequence of a violent effort, had a prolapse of the uterus; gestation, nevertheless, went on without any accident to the full time. When Dr. G. saw her, thirty-six hours had elapsed since labor had set in, and twenty-four since the waters had been discharged. The uterus hung between the patient's thighs. The vertex of the child presented, and the neck of the uterus was dilated to the size of a two-franc piece. Not being able to obtain a greater dilatation, Dr. G. made an incision, one inch in length, in one side of the neck of the uterus, and a dead but well-developed child was extracted. The delivery of the placenta was attended with very profuse hemorrhage, which was arrested by injections of cold water. Afterwards the uterus was reduced, and every thing went on well.

Midwifery, p. 64. Burns' Midwifery, p. 127. Ramsbotham's Lectures in the Medical Gazette.

Davis designates the first degree, delapsion; the second, prolapsion; and the third, procidentia of the uterus.—*Obstetric Medicine*, vol. i. p. 526.

* On Female Diseases, p. 277. Nauche and other French writers treat only of two degrees, "*relachement*" and "*descente*."

† Ed. Med Essays, vol. ii. p. 263. Ed. Med. and Surg. Journal, vol. xii. p. 215.

‡ Prolapsus from stone in bladder, Med. Obs. and Enquiries, vol. iii. p. 1.

§ "I was called in consultation," says M. Nauche, "by M. Evêque, February 24, 1809, about a lady, who, having been long troubled

4. During labor, if the pelvis be very wide, and the labor pains violent.—(*Ducreux*;* *Leake*;† *Nauche*;‡ *Sabatier*; *Capuron*;§ *Portal*; *Shaw*.‖)

5. At some period after delivery. Complete prolapse is much more frequent at this time than any other.

6. It has been occasioned by disease of adjacent parts; by ascites; diseased ovary; tumor near the pudendum.¶

312. *Causes*.—There has been a difference of opinion as to the proximate or pathological cause of this displacement. Sir C. M. Clarke observes:—"The immediate causes of this disease are,

"1. Relaxation of the broad and round ligaments above.

"2. A want of due tone in the vagina below.

"By the first, the uterus is permitted to fall; and by the second, the uterus is allowed to be received into the cavity." **

Astruc, Manning, Leake, Gardien, &c. are silent upon the first of these causes, and very recently Dr. Hamilton, of Edinburgh, has denied its existence. After objecting to the influence attributed by many writers to the expansion of the peritoneum, he continues:—"It is evident that the bladder, the vagina, the rectum, and more especially the muscles lining the pelvis, and those connecting the lower part of the trunk and the inferior extremities, mainly contribute to hold the uterus in its natural position." "It will be found that, in every case of prolapsus uteri, the vagina, or bladder, or rectum, or muscles lining the pelvis, or filling up its outlet, are debilitated or lacerated, and therefore the relaxation of the peritoneum and its productions (the ligaments of the uterus) is the effect of prolapsus, and not its cause."

with a '*relachement*' of the uterus, suffered violent pains in the lower belly, resembling those which occur in abortion, when she was about four months pregnant. On making a vaginal examination, we found the cervix uteri swollen, immoveable, and slightly dilated. "The pains, which had lasted for many hours, ceased as soon as the patient was placed on her back, with the pelvis higher than the head, and the uterus pushed upwards through the upper outlet into the abdomen. The usual course of gestation was not subsequently disturbed."—*Mal. prop. aux Femmes*.

* Mem. de l'Acad. de Chir. de Paris, vol. viii. p. 393.

† Diseases of Women, p. 129.

‡ Nauche, Mal. prop. aux Femmes, vol. i. p. 86.

§ Mal. des Femmes, p. 199.

‖ Mem. of Med. Soc. vol. i. p. 113.

¶ Wagner, Biblioth. Med. vol. xiii. p. 114.

** Diseases of Females, vol. i. p. 72.

See also Die ursachen und hülfsanzeigen der unregelmässigen und schweren Geburten, von Dr. J. Osiander, Tubingen, 1833, vol. iii. p. 130.

"Cases of prolapsus in virgins, it may be alleged, furnish an objection to this reasoning." "Such cases may be easily explained. The accident in those cases is the effect of a sudden exertion in moving the body, at a time when the usual supports of the uterus are relaxed, viz.: during menstruation, while that process goes on, every part connected with the uterus feels flabby and open to the woman herself, and any violent action of the locomotive muscles, as in leaping, or dancing, or running, must occasion displacement of the uterus, in the same way that it would force out a portion of the intestine, if the abdominal muscles were weakened at their ring."* Nevertheless, it would appear that these ligaments cannot be totally omitted in our consideration of uterine depressions, (although perhaps too much stress may have been laid upon them,) as it is certain that, but for their relaxation, complete prolapse could not take place.

Speaking of incipient prolapse, Boivin and Dugès† remark:—"This condition is undoubtedly the result of considerable extension of the superior ligaments and the vagina; but it is wrong to refer this effect exclusively to the latter organ. Those who have considered it merely as a weakness of the vagina, ought to have been undeceived by the numerous cases in which the lax and extensible condition of this canal does not lead to prolapsus; and by those in which the upper part of the vagina, without being dilated, is propelled through the lower. The broad ligaments, almost entirely membranous, are of little influence in supporting the uterus, as is proved by the facility with which they are expanded during pregnancy. The round ligaments, on the contrary, clearly resist any considerable descent, and especially the inclination backward, inevitable in semi-prolapsus. These are necessarily lengthened by morbid relaxation, especially in complete prolapsus; but in incipient prolapsus, they are not stretched further than their length and bend permit. The only plausible explanation, then, of incipient prolapsus, is the relation of the utero-sacral ligaments, which is of course much greater still in the two other degrees, since the uterus moves forwards as well as downwards. These ligaments then entirely disappear, their muscular fibres shrivel, and the peritoneal fold which covers them is unfolded, in order to stretch over the adjoining parts."

Dr. Davis's‡ opinion is equally opposed to the views propounded by Dr. Hamilton; for he says, when speaking of the causes of descent of the womb:—"The proximate cause, as it appears to the author, can scarcely be other than a reduced power, by whatever previous cause produced, of the suspensory ligaments of the uterus, not necessarily accompanied by a state of relaxation of the vaginal parietes. In the

* Pract. Observ. pp. 11, 12.
† Diseases of the Uterus, p. 43.
‡ Obstetric Medicine, vol. i. pp. 524, 525.

opinion of some writers, the latter circumstance should be deemed, of itself, a sufficient proximate cause of prolapsion of the uterus. But is such a doctrine entitled to the praise even of verisimilitude? An organ susceptible of development to an almost indefinite extent, as the vagina is, can scarcely have been intended to maintain a degree of contractedness sufficient to enable it to sustain the uterus in any given position. Add to this consideration the fact, that the vagina is actually most ample, where the hypothesis now questioned requires it should be most contracted. And there is yet another important circumstance to be taken into the account, viz. that the vaginal passage, in more than one class of adult subjects, is never devoid of an amplitude, which, in the author's opinion, must render it totally incompetent to sustain the office allotted to it by this very unsatisfactory hypothesis." "Prolapsion of the uterus is, therefore, much more probably and frequently the effect of relaxation, or of rupture, or of diminished power under some form or other, or of its proper suspensory ligaments, than of any supposed state of relaxation of the vagina."

Dr. Blundell observes, "When the vagina is closed in the natural degree, there is little risk of these accidents; but if there be much vaginal relaxation, whether this arises from mucous discharges, or from floodings, or from frequent child-birth, or from other causes, this dilatation contributes greatly to the descent of the viscera; for the smallness of the vagina is a principal security against these troublesome displacements." "Another cause is the elongation of the broad ligaments, which may become stretched so as to allow of a more extensive movement of the womb, which they ought to retain in connexion with the sides of the pelvis." "Therefore, among the more immediate causes of these descents of the pelvic viscera, you may enumerate the following as of principal and proximate operation:—The conformability of the parts, derived from a frequent descent; the elongation of the broad ligaments; and the relaxation of the vagina; more especially when they are acting in co-operation with an unusually large pelvis."*

M. Retzius denies that it arises from relaxation of the lateral ligaments and upper part of the vagina, and attributes it to the distension, by the descent of the bowels, of the inflections of the peritoneum which are to be found on each side of the womb.†

Professor Hohl‡ thinks that it results from diminished vital power, and not from relaxation of the ligaments or vagina.

The state of the vagina is probably the chief cause. After many child-bearings, both the canal and its orifice remain much dilated, and

* Blundell on Diseases of Women, p. 26.

† Schmidt's Jahrbuch, No. 9, band 51, heft 3, 1846.

‡ Zeitschrift fur Geburtskunde. Ranking's Abstract, vol. 9, p. 190.

the walls are less resisting than before.* Similar effects are said to result from repeated uterine hemorrhage, menorrhagia, leucorrhœa, and from a general weakness of the system.

Such being the state of the parts, it is clear that very slight downward forcing will depress the womb, and ultimately exclude it from the vaginal orifice.

This force will be supplied by the increased weight of the uterus, if the patient sit up or walk soon after delivery or abortion, and this is a very frequent occasion of prolapse, especially among the lower orders; by violent vomiting, coughing, and sneezing; by great strangury or forcing, or by the endeavour to lift heavy weights. Doctor Heming mentions having seen prolapsus caused by ascites.† M. Lisfranc conceives that congestion of the uterus is almost always the cause of depression of the uterus.‡ Women with large-sized pelves, or with congenital shortness of the vagina, are more liable to this displacement. Jourdan remarks that it is more frequent in thin than in fat women.

313. *Symptoms.*—These are principally *mechanical*, arising from the pressure of the prolapsed uterus upon other organs; from their being involved in the displacement; or from the *sympathies* of other organs with the uterus. It is very remarkable how little prolapse interferes with the uterine functions. Menstruation, though sometimes disturbed, is perfectly regular in the majority of cases, and rarely mixed with hemorrhage; and not only is there no impediment to impregnation,§ so long as the uterus is retained or can be returned into the

* Capuron, Mal des Femmes, p. 298.

† Boivin and Dugès, Disease of the Uterus, p. 44, (*Note.*)

‡ Mal. de l'Uterus, p. 526.

§ "Chopart (Traitè des Maladies de la Vessie, vol. ii. p. *3,) fait mention d'une fille atteinte, depuis l'age de quatorze ans, d'une chute incomplète de l'uterus, qui augmenta insensiblement. Cette jeune personne fut mariée à l'age de vingt deux ans. Son mari pendant vingt ans fit des tentatives inutiles pour la rendre mère. Il parvint enfin á dilater, avec le membre viril, l'orifice de l'uterus, et consomma l'acte de la generation; la grossesse s'ensuivit, et parcourut son cours ordinaire, sans occasioner beaucoup d'incommoditès. Au moment de l'accouchement, une très grand portion de l'uterus se montra hors du vagin, sous la forme et la volume d'un melon. Ce viscere etait dur, renitent, et tellement serrè par l'orifice du vagin, qu'il semblait avoir contractè des adherences avec lui. L'orifice de l'uterus ne se dilatant pas, on fut obligè de faire sur son col deux incisions opposeès, afin d'opèrer une dilatation suffisante pour extraire l'enfant, qui etait mort." The patient recovered, but the prolapse continued.—*Nauche, Mal. propres aux Femmes*, vol. i. p. 87.

vagina, but there is more than one case on record where impregnation was effected, although the prolapse was irreducible.*

The degree of inconvenience caused will generally bear some relation to the amount of the displacement, although even a slight degree of descent will sometimes be marked by considerable suffering, dependant probably upon the idiosyncrasy of the patient. She complains of a sensation of fulness in the pelvis, of weight and bearing down, and dragging from the loins and umbilicus. There is more or less pain in the back, extending round the groins. This, with the dragging sensation, has been attributed to the stretching of the uterine ligaments. The patient suffers great distress from attempting to stand or walk, and is much worse in the evening than in the morning.

If the womb descend to the external orifice, and more especially if it protrude, there is a degree of difficulty in voiding urine and fæces; indeed, in some cases, the former can only be accomplished by lying down, and returning the uterus to its natural situation.

"In procidentia (complete prolapse) of the womb, it is remarkable that the health of the patient often suffers very little: indeed, it has been observed with truth, that the general health is often much worse in those cases in which there is a mere relaxation, than in those cases of procidentia in which the vagina and uterus lie forth under view."†

Dr. Hamilton‡ has some very valuable observations on this point. He remarks: "In robust women of the lower ranks, little inconvenience is experienced till the uterus be actually protruded through the external parts; and even under such circumstances, if they manage by any mechanical contrivance to prevent the actual protrusion, they can make all the ordinary exertions required by their mode of life—such as carrying milk, or vegetables, or fish through a large city. Thus it consists with the author's knowledge, that a woman with a protrusion which in size equalled a great bottle, and in whom both the protruded parts and the internal surface of the thighs were extensively ulcerated, maintained for four years an epileptic husband and four children, by the laborious occupation (now exploded in this city) of a water carrier. The woman's general health was unimpaired, and she asserted that her appetite was good, and that she had no morbid affection whatever of the stomach and bowels. The author has seen three other cases, where the size of the protruded parts was enormous; and two of the individuals were gaining their livelihood as laundresses, and the third as a milk-woman, walking through this city at least two hours twice a-day. Far different is the

* Burns' Midwifery, p. 134. Jalouset, Jour. de Med. Chir. et Phar. vol. 43, p. 366. *Ante*, p. 304, *note*.

† Blundell on Diseases of Females, p. 34.

‡ Pract. Observ. pp. 3, 4, 5.

progress of the disease in delicate individuals in the higher ranks. The uneasy feelings on standing or walking lead them to avoid all exertions which are productive of such sufferings. Their general health soon declines, from want of air and exercise; and the increasing descent of the uterus produces an unusual discharge from the mucous glands of the vagina. This aggravates the general weakness, as well as the sense of weariness in the back. A broken constitution is the natural consequence."

Strangury is occasionally present, in consequence of the irritation extending itself from the womb to the bladder.

All the mechanical symptoms are aggravated by the patient remaining in the upright position; but if the womb have not completely prolapsed, she will obtain immediate and complete relief by lying down. If the descent be complete, the dependant uterus will give to the patient an irregular straggling walk. Lying down in such a case affords relief from the distressing sensations, but not from the pro-

It is seldom that the patient is free from leucorrhœa, though the quantity secreted will vary. Occasionally it is very profuse, manifestly diminishing the strength of the constitution. Attacks of menorrhagia occasionally occur, but it is very rare indeed that there is any hemorrhage.

From its intimate connexion with the womb, the stomach soon shews signs of derangement. "The appetite becomes irregular, or is totally lost; the stomach and bowels lose their tone, and there is great distension in the belly, arising from air, which may be heard when moving from one part to another; the spirits flag; every employment becomes irksome, and life itself is considered as scarcely desirable. There are, however; a variety of shades in the degree of this sympathy. The diaphragm is sometimes affected by spasm, and hiccough is produced."*

"These cases suggest a doubt in respect to the cause of the dyspeptic complaints which attend even slight degrees of prolapsus in the better ranks. Such complaints have been supposed, by the latest authors, to be the effect of sympathy between the stomach and uterus, or of displacement of the abdominal viscera. Ought not the above facts suggest to an unprejudiced mind the idea, that the treatment pursued in the better ranks has a very considerable influence in occasioning the secondary symptoms?"†

But did the Doctor never see these secondary symptoms among the lower orders, who resisted the confining effects of the disease as long as possible?

* Clarke on Diseases of Females, vol. i. p. 81.
† Hamilton's Practical Observations, &c. p. 6.

Dr. Meigs has met with about thirty cases, in which there was a remarkable neuralgic sensibility of the entire abdomen, to such a degree as to resemble the tenderness of peritonitis, which, however, suddenly ceased upon the uterus being replaced.

314. The information obtained by a vaginal examination will vary according to the degree of the displacement. If there be only *procidentia*,* the womb will be felt on passing the finger through the vaginal orifice; the os uteri will be discovered at the bottom of the tumor, which fills the pelvis more or less; and the vagina will be found loose, relaxed, dilated, or thrown into folds.

If the womb have *prolapsed*, it will be discovered on separating the thighs and turning aside the labia. It is generally of a conical form, or pear-shaped; but whether the upper or lower part be the wider, depends entirely upon the time which has elapsed since the first occurrence of the displacement. If recent, the apex of the cone will be downwards; but in almost all old cases, the apex will be found at the mouth of the vagina. Occasionally the organ is more cylindrical, and is not unlike the male organ of generation. Saviard relates such a case, which obtained from the patient the character of being hermaphrodite. "Dr. Duval was grossly deceived (in the case of Maria Lemarcis,) by a resemblance between the cervix uteri and male glands."†

The size of the tumor varies very much. It is seldom very large in those cases where the patient is in the habit of returning it into the pelvis on lying down; but when this is neglected, or rendered impossible by inflammation or sudden swelling, it sometimes attains a very great size, and is quite irreducible.

In all cases of prolapse, the os uteri will be found at the lower part of the tumor; and as a cleft resembling it often exists in polypous tumors, it will be right to make sure of its being the mouth of the womb, by the careful introduction of a bougie, should there be any doubt.

The protruded womb has the bladder lying on its anterior wall, the whole being covered by the everted vagina, the mucous membrane of which will be tense, or thrown into rugæ, according to the size of the tumor and the distension of the bladder by urine.

"When the tumor is external, it presents a nearly equal surface; as the uterus descends, the rugæ of the vagina are obliterated, except where the upper part of the tumor is joined to the body; and even here they are lost when the bladder contains much urine; but in proportion as it empties itself, the rugæ begin to form again. When the

* For the purpose of making this examination, the patient should be kept in an erect posture.

† Boivin and Dugès, Diseases of the Uterus, p. 70.

tumor becomes very large, the skin of the labia is drawn down, so that these parts are no longer distinct projections, but the tumor begins close to the inner part of the thighs, being there covered by the cuticle of the labia: the greater part of the tumor, however, is covered by the membrane which, under natural circumstances, lines the vagina."*

Generally the tumor has a firm elastic feel, and anteriorly some fluctuation may generally be detected. The color depends upon the exposure: when frequently returned into the pelvis, it preserves its delicate pale pink hue; but when allowed to remain long exposed to the external air, its color deepens, and it becomes dark red or brown. A further effect is produced by exposure; the mucous membrane of the vagina covering the prolapsed organ becomes converted into a kind of epithelium, with a cessation of the mucous secretion.

From the situation of the prolapsed viscus, it is peculiarly exposed to irritation and pressure, giving rise to circumscribed patches of inflammation, which are very liable to run on into ulceration, more frequently superficial than profound, forming a distressing addition to the sufferings of the patient. I had, some time ago, a patient under my care, with an enormous irreducible prolapse, which was pierced nearly through by five or six ulcerations. Such ulcerations have been known to assume a gangrenous appearance, and to put the patient's life in jeopardy. Dr. Elmer met one case, and Rousset† three, in which the uterus, being attacked with gangrene, separated completely, and came away, yet the patients recovered.

"A lady, somewhat advanced in life, who had suffered a long time from procidentia uteri, found the organ completely prolapsed after a shaking drive in a carriage. M. Elmer having been summoned, found his patient attacked by fever, pain in the stomach, weakness, and great pains in the limbs. The displaced uterus had acquired an enormous size, it was black, exhaled a fœtid odour, and had all the appearance of the first stage of gangrene.

"Three days afterwards, the separation of the uterus commenced, and in a few days it came away entirely; the fever and pain ceased, the patient's strength returned, and she recovered her health."‡

The 'cul de sac' formed behind the prolapsed uterus and vagina very often contains fluid, and occasionally a considerable portion of intestine.

"In the case of a poor woman named Watkins, who died in Kensington work-house, in whom the protruded parts measured more

* Clarke on Diseases of Females, vol. i. p. 70.
† Partus Cæsareus, pp. 337, 353, 354.
‡ Nauche, Maladies propres aux Femmes, vol. i. p. 84.

than fifteen inches in circumference, and six and a half in length, it was found that they contained, besides the uterus, the urinary bladder, with a portion of the meatus urinarius, part of the rectum, the fallopian tubes, and the small intestines."*

If the abdomen be very carefully manipulated, it is said that it will be found flatter and more empty than ordinary.

315. *Diagnosis.*—In addition to other distinctive marks of prolapsus uteri, there is one that is perfectly conclusive, and applicable to any degree of the displacement. *I mean the presence of the os uteri at the inferior part of the tumor.* We must, of course, make sure that it is the os uteri, and not a mere fissure: this may easily be done by the introduction of a moderate sized bougie. Another mark, upon which some stress has been laid, is of less value; I allude to the form of the tumor, (a cone with the apex downwards,) which has already been stated to depend altogether upon the length of time the prolapse has been complete.

Procidentia uteri may be distinguished—1. From *polypus uteri*, by the presence of the os uteri at the inferior part of the tumor, and by its sensibility: and *prolapsus uteri*, in addition to these marks, by the eversion of the vagina, and by the presence of the bladder on the anterior part of the tumor covered by the vagina.†

"There are at least three diseases with which prolapsus uteri may be confounded, and from which, of course, it is necessary to distinguish it, viz. chronic enlargement of the uterus, polypus excrescence, and incipient scirrhosity. Nothing but actual examination can enable the practitioner to draw the line of distinction. In this disease the os uteri forms the apex of the protruding part, in whatever position the patient may be placed; and no tenderness whatever is experienced from pressing upon the part."‡

2. *Procidentia uteri* differs from *partial inversion of the uterus*, in the presence of the os uteri at the lower part of the tumor, in the absence of the severe floodings, and in its smooth surface: *prolapse* differs from *complete inversion*, in the presence of the os uteri, in the smooth surface, in having the bladder anteriorly, and in the absence both of the floodings and the extreme constitutional suffering.

3. From *prolapse of the vagina*, in the greater solidity of the tumor, and in the presence of the os uteri inferiorly.

4. From *tumors of the pelvis.* A careful examination will detect the displacement, and the os uteri at the lower extremity of the tumor. There is little or no displacement with pelvic tumors.

* Hamilton's Pract. Observ. part 1, p. 4.

† Jourdan adds: "By the prolapse being reducible, but not so the polypus."—*Dict. de Méd.* vol. xxiii. p. 284.

‡ Hamilton's Pract. Observ. p. 6.

316. *Treatment.*—"If nothing were done in the way of treatment for a patient laboring under this disease, she would become much distressed by all the symptoms which have been described: she might die from weakness, induced by the large discharges and the disordered state of the stomach; or she might die from inflammation taking place in the parts contained in the inverted vagina, which are more liable to pressure than when in their usual place, the cavity of the pelvis and abdomen." "Such fatal terminations are uncommon: it much more frequently happens that the patient drags on an uncomfortable life for a number of years, till she is destroyed by accident, or by some other disease."*

It is in the treatment of this displacement that we see the value of a distinct appreciation of the degree of descent. In the milder cases, we can often succeed by acting medicinally upon the mucous membrane: in the severer ones, we are obliged to have recourse to mechanical support.

317. We shall therefore consider the management, first, of *Procidentia Uteri.*†

If a patient, who has previously suffered from descent of the womb, require our attention during her confinement, we should be on our guard against permitting her to leave her bed, or even to sit upright in it, before the elasticity of the parts has restored them to their natural state. By great care, and a longer confinement than usual, it has been found possible to cure many patients, who, previous to their pregnancy, had suffered from prolapse. This preventive treatment will generally be perfectly successful; but it is not often that we have an opportunity of putting it into practice, as the majority of cases present themselves to us at an age beyond that of child-bearing.

In ordinary cases, the first and most general remedy to be employed is rest, for as long as possible, in the horizontal posture.‡ If by this

* Clarke on Diseases of Females, vol. i. p. 86.

† Lisfranc declares that slighter cases of procidentia being all caused by congestion of the uterus, may be cured without any reference to the depression. Even when the prolapse has been complete, he has hitherto avoided using mechanical support. "En resumè," concludes the Professor, "the congestion must first be treated, and if, after that, the displacement of the womb be persistent, the pessary may be employed, if the patient can bear it."—*Mal. de l'Uterus*, p. 528.

‡ Dr. Hamilton does not attach so much importance to rest in this position. He says, "Although the horizontal posture immediately relieves the uneasy feelings of the patient, the author long ago ascertained that it tends not only to impair the general health, but also to

means the relaxation of the vagina and ligaments be not cured, at any rate it will be prevented from increasing.*

There are two means of restoring the tone of the relaxed vagina, viz. the application of cold, and the injection of astringents. The facts in support of the efficacy of these remedies are numerous and authenticated, but it would occupy too much space to dwell upon them. I shall merely state the best mode of application.

The lower belly, the genitals, and the back, may be sponged with very cold water twice or thrice a day, and an injection (a pint) of cold water, may be thrown up the vagina morning and evening. The patient should remain in the recumbent position whilst receiving the injection, which should be gently and slowly administered, by means of an appropriate syringe, or an elastic bottle.

Astringent remedies deserve a full trial, for in many cases they are very beneficial.†

Various kinds have been recommended. Some object to those of metallic origin, as liable to cause irritation of the mucous membrane; and they especially recommend vegetable astringents. This inconvenience is not, however, of frequent occurrence.

The most useful of either kind, are the sulphate of zinc or copper (ʒss to ℥iii of water), nitrate of silver (from ℈i to ℈ii to ℥iii of water), alum (ʒii to ℥iv of water), decoction of green tea, of oak bark, of galls, of matico, infusion of roses, &c.; or we may combine the two kinds.

Dr. Blundell says, "It might be worth consideration, whether powdered astringents might not be of use, if they were introduced with a little care, which might perhaps be done by the patient herself; and I think powdered galls, for example, would furnish a very powerful application. They would have the advantage of lying in the vagina more permanently than a wash, which runs off as soon as it is infused."

From a half pint to a pint of the fluid should be injected *cold*, two or three times a day, the patient lying down for the purpose.

"When the parts are replaced, it will sometimes be proper to use local astringent and aromatic applications, in the form of a lotion or fomentation, applied externally, or conducted into the vagina by means of a syringe or sponge."‡

aggravate the disease, by increasing the relaxation of the natural supports of the womb: and daily experience has established the validity of this opinion."—*Pract. Observ.* p. 15.

* Davis's Obstetric Medicine, vol. i. p. 548.

† Blundell on Diseases of Women, p. 41.

‡ Denman's Midwifery, p. 66.

Burns decidedly advises the use of astringent injections, whether the pessary be employed or not.*

"In cases of simple prolapsus, resulting rather from relaxation of the vagina than of the ligaments, it has been found useful to employ astringent injections and fomentations, made of the decoction of plants containing tannin, (bistorte, Provence roses, catechu, kino, &c.); or saline solutions, (acetate of lead, sulphate of zinc, alum, sulphate of iron, nitrate of potassa and iron); cold baths, and cold applications to the vagina. These remedies should be used somewhat cautiously, as inflammation has sometimes followed. It will be proper to add enemata of the same kind, and tonic frictions about the groins."†

Several objections have been raised against the use of injections by Doctor Hamilton, on the following grounds:—

"*Firstly*. On the supposition that styptic injections were safe, and that they could really restore tone to the vagina, (which the author concedes for sake of argument, for the contrary is his sincere belief,) it must be obvious that if his view of the nature of the disease be correct, no benefit could accrue from the practice. Accordingly, no practitioner trusts to those means, in cases of any considerable degree of prolapsus uteri.

"*Secondly*. It is admitted, that as the irritability of the mucous membrane of the vagina varies in different women, as well as in the same women at different periods of time, the injection of strong astringents may prove injurious. Doubts are therefore entertained on the safety of the practice, even by those who recommend it.

"*Thirdly*. The author's experience has convinced him, that astringent injections into the vagina are apt to injure the uterus rather than the canal into which they are thrown. He can solemnly aver, that of the numerous cases of chronic enlargement of the uterus which have fallen under his notice, by far the greater number had been unequivocally occasioned by the use of styptic injections per vaginam.

"*Fourthly*. The immediate effect of such injections, in cases of prolapsus uteri of any standing, viz. the diminution or suppression of leucorrhœal discharge, has been in many cases followed by distressing headaches, or obstinate inflammation of the eyes, or eruptions on the face."‡

These objections will be best obviated by pointing out some circumstances which forbid their employment.

1. Any degree of acute or chronic inflammation of the vagina will probably be aggravated by astringents.

2. Congestion, or chronic inflammation of the womb, will prohibit

* Midwifery, pp. 130, 131.

† Boivin and Dugès, Diseases of the Uterus, p. 42.

‡ Practical Observations, p. 17.

them; but in such cases, it is probable that relieving the disease may cure the displacement.

3. The strength of the astringent injection must be well adapted to the irritability of the vagina; and if it be attended with inconvenience, it should be abandoned.

Injections, however, may not be sufficient to relieve even this stage of the disease. "The best mode of treating the disease," says Dr. Blundell, "and the most effectual, is by means of a pessary, and this is a form of it which a well-adjusted pessary will relieve."*

The improvement of the general health will often have a remarkable influence upon the procidentia, so that our attention should be carefully addressed to this end. Blue pill, aromatic purgatives, tonics, &c. with good diet, may be useful, and for the inhabitants of cities, a removal into the country.

318. *Prolapsus uteri.* When called to a case in which the descent is complete, and the uterus protruded through the external parts, our first duty is to attempt the reduction. This in general is sufficiently easy: the uterus must be gently, yet firmly, pressed upwards by the hand (previously well oiled), and when within the vagina, one or two fingers should be introduced, in order to replace the womb as nearly as possible in its natural situation.

"Particular care should be taken to ascertain whether inflammation has at any time attacked the internal parts of the tumor; because if this should have happened, and if the parts should be connected with each other by coagulating lymph, the force necessary to accomplish the return of the tumor may separate the adhesions, or tear the parts with which they are connected, and the life of the patient may be brought into imminent hazard. Whenever, therefore, acute pain, which has been lasting, has occurred in the tumor, particularly when this has been accompanied by other marks of peritoneal inflammation, such as thirst, white tongue, small quick pulse, tenderness of the abdomen, and vomiting, no attempt should be made to replace the uterus within the body."†

"The body of the patient should be so placed, that the pelvis may be much higher than the head: this will prevent the weight of the abdominal viscera from interfering with the return of the parts. The patient being now directed not to strain, or in any way to act with her abdominal muscles, the practitioner is to apply his finger and thumb to the lower part of the tumor, where the os uteri is situated, and by a gentle pressure this is to be carried up into the centre of the tumor itself. This done, the same pressure is to be continued, and

* Blundell on Diseases of Women, p. 39.

† Clarke on Diseases of Females, vol. i. p. 124.

the parts are to be returned into their proper place in the pelvis. A pessary is then to be introduced into the vagina, and the patient should continue to lie upon an inclined plane, with the hips elevated, for several hours." *

But if the uterus be much swollen, this speedy reduction may be very difficult, or impossible; and in such a case it may be necessary to take away some blood, give some purgative, place the patient in a hot bath, or apply fomentations to the displaced organ, before we can succeed in replacing it. Should these measures, with absolute rest in the horizontal position, fail, leeches should be applied to the tumor, or we may make one or more incisions into the substance of the womb. Jalouset,† Berchelman,‡ and Labatt,§ have tried this plan with success. Care must, of course, be taken to avoid penetrating the peritoneum.

It occasionally happens, if the prolapse be of long standing, and the uterus be much swollen, that its reduction causes more inconvenience than the prolapse. Richter has related such a case. The patient, after the replacement of the womb, felt great uneasiness, sharp pains in the lower belly, and obstinate constipation; and it was

* Clarke on Diseases of Females, vol. i. p. 126.

† Journal de Med. tom. 43.

‡ Med. Comment. vol. ii. p. 43.

§ Dr. Labatt's case is as follows:—A Mrs. C. F., æt. 27, suffered from prolapsus uteri after her first and second child. The uterus was returned, and retained '*in situ*' by a pessary, which, however, was shortly afterwards withdrawn, as it occasioned "pain, strong bearing down efforts, constant sickness at stomach, and a troublesome strangury." The uterus, after this, remained prolapsed for several months, and in "March, 1806," says the Doctor, "I was requested to see her, when I found her worse in every respect; she was much emaciated, and teased with a cough and copious night-sweats. She had no appetite, but constant nausea and vomiting: the uterus protruded throughout the os externum to a great extent; it was considerably enlarged, and very sensible to the touch, and seemed evidently in a state of inflammation, from friction between the thighs, which appeared excoriated by it. Around the os uteri was observed a superficial ulceration. The base of the tumor (which was *of a conical shape, the os uteri situated at the lower part or apex,*) formed by the prolapsed uterus, was surrounded by displaced intestine, and at the anterior part was discovered a swelling, which was found to be the bladder, as, on pressing it, the patient passed water involuntarily. The slightest attempt at reducing the uterus considerably increased the lancinating pains through the pelvis, from which she was never entirely free. With these symptoms she had a constant pain and sense of weight in the lumbar region, increased by an erect posture; a con-

found necessary to allow the uterus again to prolapse, for the sake of relieving her torture.

"Dr. Bobe-Moreau thought the pressure produced by a bandage the only means of reducing cases of long standing: and this mode

stant and painful desire to pass urine, frequent and profuse uterine hemorrhage, and in the intervals a copious leucorrhœa. The management of her family, in which necessity obliged her to take an active part, tended considerably to aggravate her uterine complaints. Her health became so bad, however, that for some time she was obliged to relinquish every kind of exercise, and remain in a horizontal posture. Under this untoward combination of circumstances, I expressed a wish to consult Doctor Clarke, who suggested scarification of the uterus, as the only remedy left untried which afforded any probability of relief; at the same time adding, that he recommended it on the authority of a German writer, never having seen it actually put in practice. He considered this patient's situation so desperate, as to justify any rational expedient, however novel. She readily consented to the operation, which Mr. Dease performed, by making ten or twelve bold incisions, in the form of radii, from the apex of the tumor, as far towards the base as was consistent with the safety of the displaced intestine and bladder. The patient felt little pain during the operation. A discharge of blood, not however so copious as might have been expected, continued for several hours, followed by an ichorous discharge, which continued for some weeks. She felt no immediate change of any kind, nor any benefit from the scarification; on the contrary, for five or six weeks she had reason to believe that it increased her distress: after that period, however, she was sensible of an amendment. The size and morbid sensibility of the womb began to diminish, so that in a short time she was able to return it, and wear a pessary with little inconvenience; but this being too small, and falling from the vagina, was discontinued. Being at some distance from home, and anxiously engaged in attending her husband, who was dangerously ill, she allowed the uterus to come down, and remain so until the beginning of April, when she returned to Dublin. I found the womb completely prolapsed, but much diminished in size, and not sore to the touch as formerly: it was returned, and retained in its place by a pessary of a proper size, which she now wears with little pain or inconvenience. The pains in her loins and through the pelvis are much better, the uterine discharges lessened, her general health improved, and she enjoys a degree of comfort to which for many months she was a total stranger." The Doctor adds—

"I this day, Aug. 28, 1807, visited my patient, and was much gratified to find her almost free from complaint. She had no distress on making water; the leucorrhœa had ceased, and the catamenia were

already proposed by Léveillé,* has been successful."† Ergot of rye has been given for the purpose of lessening the bulk of the uterus, and with success. In the Medical Gazette for July 26, 1834, a case is related by Mr. Ker of Manchester, in which he gave four scruples of ergot of rye, with an hour's interval between each, for the purpose of causing uterine contraction, and so reducing the bulk of the prolapsed uterus, which was found irreducible previously. The patient complained of "a great deal of grasping griping pain" in the uterus; and "on examination," says Mr. Ker, "we discovered, to our great satisfaction, that a material diminution (in size) had occurred; so much so, that the *rugæ* of the vagina were perfectly manifest, and without any great effort the reduction was effected."

There are very few cases perfectly irreducible; but should any such be attacked by extensive sloughing or gangrene, we may have to decide upon the propriety of removing the organ altogether.

The circumscribed ulcerations which I have mentioned, as frequently attacking the exposed uterus, will be cured by slightly stimulating and emollient applications. Sir C. M. Clarke recommends the following ointment:—

"Bals. peruvian. ʒii
Ung. Cetacei, ℥i M. ft. Ung."

If the uterus be returned, and retained in its proper situation, they disappear without any treatment. Dr. Blundell‡ observes: "By the application of some stimulant and astringent remedies, such as are used in cutaneous diseases, perfect cures may, I believe, in general be easily obtained."

But, supposing the uterus returned into the pelvis, our task is but half fulfilled; we have yet to decide on the best means for keeping it there, and for preventing a repetition of the prolapse.

The ordinary method is by the introduction of a pessary, if the patient be able to bear it. There are various kinds, either of sponge, glass,§ cork, boxwood, ivory, silver, or of elastic gum. Those in common use are flat, round or oval, with edges thicker than the middle part, and made very smooth. There is a hole in the centre to

regular. The uterus has been retained in its natural situation by a globe pessary, which she wears without any inconvenience. Her appetite and general health seem restored, and she is able to take long walks without any increase of her uterine complaints."—*Dublin Med. and Phys. Essays*, vol. i. p. 235.

* Bull. Fac. Med. 1815, No. 4.

† Boivin and Dugès, Diseases of the Uterus, p. 51.

‡ Blundell on Diseases of Females, vol. i. p. 103.

§ Dewees, Diseases of Females, p. 240.

allow the escape of any discharge, and small holes occasionally made at the sides of the large one, for the same purpose. Others are globular* and hollow, and either round or oval.

"Cork," says Sir C. Clarke, "although from its lightness it seems well adapted for the purposes of a pessary, is objectionable, from being porous, and liable to imbibe the moisture of the parts; from which circumstance it becomes offensive and irritating. Pessaries have been made of cork covered with wax; but they soon lose the wax, which either becomes soft and is rubbed off, or it peels off in flakes. Sponge is the worst material which can be employed for pessaries; it is porous, and will very quickly imbibe the moisture of the parts. The piece of sponge must be large, compared with the size of the vagina, or it will be useless; and if it is large, the vagina (the dilated state of which was one of the causes of the disease) will be still further dilated; and although, whilst the sponge is worn, the uterus will rest upon it, and the symptoms may be relieved, yet when it is removed, the disease will return with double violence. Pessaries are made of various shapes, as well as of different materials, adapted to different cases and circumstances. For the majority of cases, a circular or an oval pessary answers sufficiently well; but the circular pessary can only be safely used in those cases where the disease has not made great progress, and where the tone of the vagina is not much impaired." "It will seldom be safe to introduce a circular pessary the diameter of which exceeds 2½ inches. No instrument of this kind should measure in thickness, at its external edge, less than ⅓ of an inch, lest it should injure the parts by its edge; it should become gradually thinner as it approaches the centre, in which there should be an oval opening, large enough to hold the end of the fore-finger of the surgeon, in order to enable him to place the instrument. A number of holes may be pierced through the instrument in different parts, by means of which it is rendered much lighter, and the secretions from the upper part of the vagina, as well menstruous as mucous, can more readily pass through it. A pessary of an oval form is best adapted to those cases in which the tone of the vagina is so very much diminished as to make a large support necessary; because in this case the oval pessary rests by its two extremities upon the sides of the vagina; but lying with its long diameter applied to the short diameter of the female pelvis, it neither interferes with the rectum nor with the urinary passage. If the case should require it, an oval pessary should be used, of a size so large that it may measure 3¼ inches in its long diameter, without any injury to the parts."†

* First invented by Dr. Sandys of London. Denman's Midwifery, p. 66.

† Clarke on Diseases of Females, vol. i. p. 112, et seq.

Dr. Blundell "prefers the "globular or oviform, as it gives to the descending parts a very considerable bearing, by means of its broad surface."*

"The most easily worn pessary, and one perfectly well calculated to meet its intended indication, might be found in a rounded piece of fine sponge, of sufficient volume to retain its position within the vagina. The principal objection to a pessary made of sponge, is its peculiar susceptibility of becoming charged with offensive and irritating impregnations, and the consequent necessity for its being daily withdrawn and replaced. Sponge pessaries should indeed be withdrawn and replaced *at least once every day*. One great advantage attaching to a sponge pessary, is the facility which it affords for keeping the parietes of the vagina more or less constantly exposed to the action of whatever medicated fluid the practitioner may feel it his duty to recommend to be applied to it; for the sponge pessary may always be worn more or less charged with the fluid furnished for that purpose. The author is in the habit of entrusting that duty to the patient herself, merely giving her general directions to avail herself of a horizontal position, with her knees retracted, and to charge the inferior or more accessible part of the sponge from the mouth of a small cream-jug or the pipe of a toy tea-pot. Practice will enable her, in a short time, to determine the proper quantity to be used for each charge of the fluid."†

Dr. Waller, in a note appended to his edition of Denman, describes an instrument which he has used with great benefit, especially in cases of lacerated perineum; "it is made by Mr. Laurie of Bartholomew-close, and consists of an elastic steel circular spring which surrounds the body, and rests just below the hips: it is fastened behind with a strap and buckle: two small studs are fixed to the centre of this spring in front, to which a curved steel wire is attached by means of straps; this wire forms a sort of hook, of proper length and curvature, to be passed up the vagina, as high as the natural situation of the os uteri; upon this hook a pessary is mounted, composed of cork, well padded and covered with india rubber, in order that it may not be affected by moisture. The straps at the upper part of the wire act as hinges, and by so doing, permit the free motion of the body; they can very easily be removed from the studs, so that the pessary may be taken away at pleasure, without unbuckling the circular spring. In front of the body spring is attached a short elastic piece of steel, with a groove in it, which plays upon the wire hook, and prevents the pessary from being forced out of its place."‡

Blundell on Diseases of Women, p. 35.
Davis's Obstetric Medicine, vol. i. p. 550.
Denman's Midwifery, p. 68.

M. Cloquet has proposed a cylindrical one, flattened before and behind, and terminated by an oval depression.

Messrs. Murat and Patissier have given an excellent description of several kinds of pessary, and the dangers arising from their misuse:* "Pessaries may be made of gold, silver, lead, wood, cork, or gum-elastic. Sponge is recommended occasionally, when the membrane of the vagina is swollen, or the canal of the urethra indurated. The more precious metals are in general too expensive, and others are liable to be corroded by the discharges. Boxwood is the best species: formerly aromatic woods were employed. Osiander recommended a bag filled with chips of oak-bark to be introduced into the vagina. Ivory is sometimes used, but it becomes soft and worn. As to the form, they may either be round, oval, like an hour-glass, '*en bondon*,' or '*en bilboquet*.' Add to these the pessaries invented by Bauhin and Saviard. "That of Bauhin is a circle of silver, supported upon a stalk with three branches. The circle is introduced into the superior part of the vagina, so that the cervix uteri can be fixed in it. It is maintained '*in situ*' by a ribbon attached to the lower end of the stalk, and to a bandage round the body." "The pessary of Saviard consisted of a steel spring, one end of which was fixed to a girdle, and the other, defended by a cushion, was curved so as to reach just within the vagina, and to support the uterus. An objection raised against Levret's oval pessary led M. Brunninghausen to construct one resembling the figure 8 (or an hour-glass). Its length ought to be such that it will rest on two sides of the pelvis, *i. e.* about 3¼ inches. Its superior surface is concave, perforated in the middle. It is narrowed in its centre, from before backwards; its two extremities being broader than the oval pessary, and supported at many points, so that it is less easily displaced. The pessaries '*en bondon*' have the form of a cone, perforated longitudinally; the base is in contact with the uterus, and the apex is free and external. The base may be convex, plane, or concave, according to the object to be attained. There are two rings at the outer end, for the attachment of a bandage. The pessaries '*en bilboquet*' (called also pessaries *a tige*, *a pivot*, or *à petiole*,) were invented in the last century by M. Levret, to avoid the pressure exercised by ordinary pessaries upon the rectum and bladder. They consist of an ordinary concave flat pessary, from the under surface of which proceed three branches, afterwards united into one stalk, of sufficient length, and furnished with a ring for the attachment of a bandage, by which it is secured in its position."

The latter kind are inconvenient; they get displaced, and may do mischief. They are principally useful when the perineum is ruptured.

* Dict. des Scien. Med. vol. 61, art. Pessaire.

"A form of instrument has been made for cases of lacerated perineum, with a stalk, to enable the woman to secure the instrument in the parts; but this stalk is very apt to irritate the labia, and the author has hardly known a case in which it could be employed with advantage."* This resembles very much the '*pessaires à bilboquet*' of the French, which have already been noticed.

"A good pessary," says Sir C. Clarke, "should combine firmness, lightness, and closeness of texture: firmness, that it may not yield to pressure; lightness, that it may not incommode by weight; and closeness of texture, that it may not imbibe the secretions of the vagina. Those made of boxwood possess all these advantages; and this wood, not being scarce, can easily be procured."

The merits of the different kinds of pessaries may be very well summed up in the words of a French author:—

"Le meilleur sera celui qui remplira le mieux le but auquel il est destiné, sans comprimer ni blesser les parties qu'il touche, et surtout sans gêner l'issue de l'urine ou des matieres fècales."†

An attempt has been made to construct a pessary which could be expanded to any size, *after* its introduction into the vagina. Dr. Thomas Simson, of St. Andrew's, contrived such a one,‡ but the profession, generally, has preferred the more simple kind.

Dr M'Clintock has succeeded with a bag of vulcanized india rubber of a suitable size: it is easily introduced folded, and expands from its own elasticity.

Mr. Lund has constructed a pessary consisting of a spiral steel spring slightly curved, and enclosed in a case of india rubber, which is kept in situ by a bandage §

Mr. Scholefield,‖ Dr. Reid,¶ and Dr. Ritchie,** have each invented a new form of uterine support; but as a description without a drawing would convey no intelligible meaning, I must refer the reader to their papers.

For some years back, I have had recourse to a modification of the old medicated pessary, in slighter cases of prolapse. I make a bag of coarse muslin, about three inches long and one wide, either more or less, according to the relaxation of the vaginal canal. This bag I fill with bruised galls, oak bark, matico, &c. and having dipped it in

* Clarke, Diseases of Females, vol. i. p. 122.
† Capuron, Mal. des Femmes, p. 309.
‡ See Edinburgh Medical Essays and Observations, vol. iii. p. 288. Davis, Obstetric Medicine, plate 11, fig. 3. Leipsig Commentaries, vol. ix. part i. p. 127.
§ Guy's Hosp. Reports, 1846.
‖ Lancet, May 6, 1848.
¶ Ibid.
** Ranking's Abstract, vol. x. p. 207.

water, and smeared it with lard or oil, I pass it into the vagina, and allow it to remain two or three days, when it can be removed, and a new one introduced by the patient herself. These bags resemble the "sachets" of M. Leuret, and I am happy to be able to strengthen my testimony of their usefulness by the authority of Dr. Meigs, who speaks highly of them in his recent work.*

I must confess that of all the pessaries I have tried, I prefer the common ring pessary of box-wood, gutta percha, or india rubber. When the vagina is very much relaxed, M. Cloquet's long square one is advisable, as it keeps the parts distended upwards. The globular or oval pessaries are useful in some cases; and Dr. Meigs' suggestion that they may be made of hammered silver, gilt, is valuable. The silver may be reduced to the thinness of letter paper, without reducing its firmness too much, and of it an extremely light pessary of any shape may be made.†

319. The mode of introducing the ordinary pessary is very simple.‡ The patient being placed on her side or back, the long diameter of the instrument is to be placed in accordance with the long diameter of the lower outlet; or in other words, it is to be passed through the external orifice edgeways. When fairly in the vagina, it must be partially turned, so as to place it transversely across the pelvis, and above the tubera ischii. The os uteri should be felt through the opening in the pessary, if it be a flat one.

The first part of the operation gives a good deal of pain, and should be performed gently, and with a rotatory motion.

The globular pessary is more easily introduced, and requires no placing internally; but I have found it far less useful, except in cases of lacerated perineum; in them, it is retained better than the other kinds.

"Ball pessaries are perhaps best adapted to the unmarried; ring pessaries to the married; the sponge to those who are very irritable; the stem to those cases in which no other form of pessary will remain. Larger pessaries are fit for permanent use; pessaries used in the day only should be smaller; the smaller the pessary the better, provided the parts are duly supported. A compress and bandage will, in many slighter cases, supersede the pessary: the same contrivance may be a useful help in supporting a pessary.§

When the irritability of the vagina is too great to bear a hard pessary, the patient may sometimes succeed in retaining a gum elastic one.

Whichever kind we use, it should be withdrawn occasionally. If

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* Females and their Diseases, p. 177.
† Ibid. p. 171.
‡ See Clarke on Diseases of Females, vol. i. p. 118.
§ Blundell on Diseases of Women, p. 55.

there be much discharge, once a month will not be too frequent; but if not, once in three or six months. Very serious consequences have resulted from neglecting this precaution.

"Pessaries, once fairly introduced, may often be worn for many years, without any, or very little, inconvenience. But sometimes, from the long continuance of a common one, or from the enlargement and strangulation of the os uteri within the opening at the centre, (which ought always to be very small) there has been much difficulty in withdrawing it, when necessary. In the latter case, the strangulated os uteri must be pressed firmly, and for some time, between the finger and thumb, till the size is reduced, when it may be extricated. But if it be possible to pass a piece of tape through the circular opening, and if we pull in a proper direction by both ends of it with a firm and gradually increased force, so as to give the parts time to distend, we can hardly fail of success. Should that not be possible, the rim of the pessary must be broken, or divided by a pair of sharp strong forceps, of the kind used by watchmakers. The globular pessary may at any time be extracted with a small vectis."*

320. Various objections have at different times been made against the employment of pessaries; and latterly they have been repeated, and urged with all the moral weight derived from long experience and high standing in the profession.

After recommending injections and tonics, Dr. Leake† remarks that they are "in every respect preferable to the application of those painful and indelicate instruments called *pessaries*, so often made use of with a bad effect; for, instead of strengthening a weak part, they lay additional stress upon it, and consequently are highly improper."

He mentions further three objections: 1. That, if too small, the pessary will not rest in the passage, but will be forced out. 2. If too large, it will occasion profuse leucorrhœa and great pain. 3. That it has been known to make its way into the rectum.

In the American Journal of Medical Sciences for August, 1836, there is a paper by Dr. Annan of Baltimore, on a method of relieving prolapsus uteri. Speaking of pessaries, he says: "Irritation is the inevitable consequence of the constant pressure of a foreign body upon the delicate membrane lining the vagina; and in many instances it becomes insupportable, and the pessary cannot be worn." "Ulceration has been produced in many cases; and a communication has been established between the rectum and vagina, and the pessary has passed into the bowel." "Another objection to the pessary is, that it dilates the vagina, and when removed, the uterus has a better opportunity for descending than it previously had." In consequence of these inconveniences,

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* Denman's Midwifery, p. 67.

† Diseases of Women, p. 136.

Dr. Annan had an instrument constructed, "the upper part of which resembles the spring and main strap of a common double truss, wanting the pads, and is designed to embrace the sacrum and wings of the ilion." To this circular spring another is attached at right angles in front, of sufficient length to reach to the anterior edge of the perineum, and terminating in a soft pad: "and so great a degree of curvature was given to this spring, that it lay outside in front of the labia," and the relief afforded was complete. It was equally successful in several cases. The curved spring should be 8½ or 9 inches long, and the tempering must be omitted.

Professor Dieffenbach, of Berlin, has recorded his opinion of the value of pessaries, in the Berlin Medicinische Zeitung, No. 31, 1836: "I have frequently seen them produce putrid discharges from the vagina; in other cases, dilatation to a most inconvenient extent; in others, contraction of the same organ; and finally, in other females, the still more dangerous accidents of cancerous or fungous productions from the vaginal mucous membrane. Sometimes I was able to extract the foreign body with my fingers, but in many other cases it was necessary to break it up with strong forceps, before the fragments of a stinking, encrusted substance, whose composition could not easily be determined, were removed. Several patients labored under excessive irritation of the bladder; and when the foreign body was large, many suffered for years under obstinate constipation." "On the other hand, however, it cannot be denied that pessaries and the sponge are sometimes useful, when properly employed by a skilful hand." The Professor proposes to supersede the use of the pessary by an operation, which he performed in the following manner on a case of prolapsus uteri: "After having emptied the bladder and rectum, I commenced by removing, from the left side of the vagina, a portion of the mucous membrane, resembling in size and shape the section of a hen's egg; the small end of the ellipse being directed backwards, the oval end forwards, and touching the nymphæ." "After having cleaned the edges of the wound, I placed five strong stitches on either side, in the following manner: the two posterior sutures on each side were first applied, the uterus was then returned to its natural position, and the rest of the sutures were finished: had they all been applied in the first instance, it would, perhaps, have been impossible to have returned the uterus afterward. If we except burning pain in the vagina, and a moderate febrile movement, the symptoms which followed this operation were not very remarkable. The patient underwent an antiphlogistic treatment, and cold injections were thrown up every hour into the vagina." Some of the sutures were ultimately divided with the scissors, and came away of themselves: the woman recovered, and the operation was successful. The Professor has repeated the operation many times since, with equal success: fewer ligatures were employed; generally but three, but sometimes none at

all, "for the edges of the wound frequently came in close contact with each other after the reposition of the uterus." "In several cases, after having replaced the uterus, I have performed the operation by merely removing a fold of the vaginal wall, which was drawn forward with Museux's forceps, and then clipped off; this is much the easier method of the two; but the surgeon should always be on his guard against the danger of wounding the bladder or rectum, which might take place if a deep fold of the vaginal parietes was removed close to its base."*

Doctor Hamilton† makes the following objections to the use of pessaries:—

"*Firstly*. They can only act as palliatives, whatever may be the degree of the disease.

"*Secondly*. They necessarily keep up a continued irritation in the passage, and of course a mucous discharge from the vagina.

"*Thirdly*. Unless properly adapted, they make injurious pressure on the contents of the pelvis.

"*Fourthly*. If not frequently taken out and cleaned, they become encrusted with a calcareous matter, which proves highly irritating.

"*Fifthly*. They subject the patient to the charge of the medical attendant for life.

"And *lastly*. Cases from time to time occur, where from the laceration of the perineum, &c. no ordinary pessary can be retained.

"Between twenty and thirty years ago, the author ventured upon an experiment for the relief of cases where no pessary could be retained. His object was to excite inflammation of the internal surface of the vagina, in the hope that adhesions would succeed, as he had heard of one case, where an unexpected cure had in this way happened." This was done once by introducing "a ball of the emplastrum ceral into the vagina," and a second time by means of a bag of alum: inflammation and sloughing followed; no adhesion took place. "These experiments having failed, the author was induced, in one very bad case, to sanction a surgical operation, viz. the bringing together the sides of the vagina by means of ligatures. The operation was very ably performed by Mr. Liston, but no union was effected, and the sufferings of the patient were such that the author resolved never to be again a party to such a practice." Having thus failed to provide a substitute for pessaries, Dr. Hamilton continued to use them, until a severe accident, resulting from the carelessness of the patient, determined him to banish them from his practice. Instead of them, he has since employed the T bandage, with "a cushion interposed between the outlet of the pelvis and the cross straps of the band-

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* Lancet for May 20, 1837, p. 303.

† Pract. Obs. pp. 28, 29.

age," (without any pessary,) "and the experiment succeeded completely, for the patients felt perfect relief. In every case, therefore, of prolapsus uteri, whatever may have been its degree, to which he has been called for some years past, he has suggested this very simple contrivance. In cases of short standing, the circular band may be made of fine linen or jean, lined with shamoy leather; but in more serious degrees of the disease, it ought to be made of tempered steel, like that of the common truss. The cushion is to be stuffed with horsehair, and ought to be, generally speaking, about six inches in length, by three in breadth. Its thickness must be adapted to the individual case; that is, the greater the degree of relaxation of the soft parts at the outlet of the pelvis, the greater should be the thickness of the cushion. It is to be tacked to the cross strap of the bandage, so as to press firmly upon all the parts requiring support. In some cases, where the perineum had entirely given way, the author has found it necessary to combine the prolapsus ani bandage with the cushion. This bandage is to be worn whenever the patient is out of bed, as long as any symptom of the disease is perceived. It effectually relieves the unpleasant feelings, while it enables the patient to take walking exercise, which is so essentially necessary to the relief or cure of the disease."

As far as I have seen, the objections may be ranged under the following heads:—

1. They are indelicate.

2. If too small, they will not rest in the passage, but be forced out, and consequently do no good.

3. That they irritate the vagina, and give rise to leucorrhœa, especially if too large.

4. That they cause irritation, ulceration, and fungous growths.*

5. That they give rise to putrid discharges from the vagina.

6. That they occasion dilatation of the vagina.

7. That they cause contraction of the same organ.

8. That patients have suffered under irritation of the bladder, or constipation, whilst using them.

9. That the pessary has become so encrusted with earthy matter, as to require breaking before it could be extracted.

10. That a pessary has been known to make its way through the walls of the vagina, and into the rectum.

With regard to the first objection—if true, this operation only shares equally with all midwifery operations; nay, it is not a whit more indelicate than making a vaginal examination.

If the second or third objection be valid, it must be owing to an error in calculation; and if the operator be watchful, he will speedily obviate it.

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* Dict. des Sciences Med. vol. xii. art. Pessaire.

The fourth, fifth, eighth, ninth, and tenth, are only applicable to cases of gross neglect, on the part of the patient or medical attendant, and cannot for a moment be admitted as any argument against the proper use of the pessary.

As to the sixth and seventh, they cannot both apply to one case. Undoubtedly a pessary will keep that portion of the canal in which it is situated in a state of dilatation; but with equal certainty, the vaginal orifice will be relieved from the distension caused by the prolapsed uterus; and if, every time the pessary be changed, one of a size smaller be introduced, it will be found quite adequate, and in many cases a permanent cure may at length be obtained.*

With due respect, therefore, to the eminent authorities just quoted, their arguments do not seem conclusive against the proper use of pessaries. On the other hand, there is ample evidence from well authenticated facts, to show that the judicious application of these instruments, so far from being injurious, is in many cases beneficial, and even preferable to any other plan of treatment.

Even Dieffenbach himself acknowledges their use in many cases.

Messrs. Murat and Patissier recommend the use of several varieties of pessary, even whilst pointing out most strongly the evil consequences which may result from neglect.†

Nauche mentions no objection to their use, but merely guards against their abuse.‡

Capuron§ and Denman recommend their employment as a matter of course.

Burns observes: "By diminishing gradually the size of the pessary, and using astringents, we may perhaps be able at last to dispense with it."‖

Dr. Blundell¶ advises their use, and their re-introduction, though they may have at first to be withdrawn, on account of exciting irritation.

321. I think, therefore, that we are justified in drawing the following conclusions:—

1. A pessary may be applied when there is neither irritation, inflammation, nor organic disease of the womb, vagina, or neighbouring viscera.

2. Its size and shape should be accurately adapted to the size of the pelvis, and the peculiarities of the case.

* Sharpless, Lancet, June 16, 1838.
† Dict. des Sciences Med. vol. xli. art. Pessaire.
‡ Mal. prop. aux Femmes, vol. i. p. 93, et seq.
§ Mal. des Femmes, p. 308, et seq.
‖ Midwifery, p. 131.
¶ Diseases of Women, p. 35.

3. The patient must be carefully watched after its introduction, and if there be necessity, the pessary must be withdrawn for a time, and resumed, or altogether abandoned.

"After the uterus has been replaced, you will find sometimes that a great deal of pain and fever are produced, so that you begin to be alarmed lest abdominal inflammation should ensue. Now, if these symptoms be considerable, you had better take away the pessary, and let the parts come down again. Bleeding from the arm, leeches to the abdomen, fomentations, poultices, relaxation of the bowels, in fact, all the ordinary remedies, appear to be indicated. If the symptoms are slight, and the pulse do not rise above 100 or 105 in the minute, I should then feel inclined to suffer the pessary to remain, taking care to empty the bladder and to keep it empty, so that more room might be left for the uterus; at the same time using fomentations to the abdomen, applying leeches, and perhaps taking away a little blood from the arm. If the symptoms arising from the pessary have been so violent that it should be deemed necessary to take it away, and suffer the parts to come down again, I should not therefore abandon my attempt; but in a few weeks afterwards, perhaps, I should resort to the pessary again, leaving it in for two or three hours, or till the same symptoms begin to appear; then again removing, and introducing afresh, after they had subsided; and thus applying the pessary longer and longer every time, I should hope to habituate the parts to its presence, so as in that manner to effect a replacement."*

4. If the patient tolerate the instrument, it should nevertheless be removed occasionally, for the purpose of cleanliness: the frequency will depend upon the character and amount of the discharges.

5. If possible, a fresh pessary should be introduced after each removal, and one of a smaller size each time.

6. Astringent injections or simple cold water should be injected previous to and after the introduction of the pessary.

But there are some cases, as Dr. Hamilton justly observes, where pessaries cannot be employed; and in such it is fortunate for us that we are not without other remedies.

We may try Dr. Aman's pad, Dr. Hull's utero-abdominal supporter, or Dr. Hamilton's compress; each mode may have its advantages in particular cases, though the principle of each is the same, viz. applying support to the external orifice. Prolapse will thus be prevented, but the procidentia may still exist; the force applied has no power of maintaining the uterus at its natural level in the pelvis.

If this be the case, I do not see but that the objection stated against pessaries, viz. that they continue the undue dilatation of the passages, applies with equal force to this plan; for if the uterus be allowed to fall

* Blundell on Diseases of Women, p. 35.

to the floor of the pelvic cavity, the vagina will be kept in a dilated state by it.

Of the relief afforded, however, both Dr. Annan and Dr. Hamilton speak most highly; and the reputation of the latter gentleman is so deservedly great, that whatever he states is entitled to great respect. If the expectations I had formed on reading his paper have not been realised in practice, it must be because the trial has been too limited.

Mr. Goodman has tried an india-rubber ball (furnished with a tube and stop-cock,) introduced empty, and then inflated. The tube is to be secured to the thigh by tape. He found it to answer the purpose perfectly in more than one case.*

322. A more decided and permanent mode of relief is afforded by the operation first proposed by M. Girardin, and which resembles that adopted for the cure of prolapsus ani by Hey and Dupuytren, &c. It has been performed, with some modifications, in Britain, by Doctors Marshall Hall, Heming,† Hayden, and Ireland;‡ in Germany, by Professor Dieffenbach,§ Doctor Fricke, &c.; and in France, by Velpeau and Berard.||

Episoraphia, as it is termed, consists in removing a portion of the vaginal mucous membrane, and uniting the opposite edges of the wound, so that when healed, the calibre of the canal shall be diminished by the breadth of the strip removed.

The operation is easily performed. The patient being placed on a table, in the position adopted for lithotomy, and the urine having been evacuated, the uterus is then to be drawn downwards, or to either side, according to the part from which it is intended to remove the strip of mucous membrane.

In Dr. Hall's case, it was removed from the anterior part of the tumor.

Professor Dieffenbach, we have already seen, prefers removing a portion from each side.

Dr. Ireland, who has performed this operation twice, and once with success, in the first case removed a broad strip from the side, and in the last from the anterior and posterior surfaces.

The operation may be commenced either at the uterine or vaginal

* Lancet, Sept. 28, 1839.

† London Med. Gazette, vol. ix. p. 269. Boivin and Dugès, Diseases of the Uterus (note by trans.) p. 53. Lancet, May 25, June 1, 1839.

‡ Dublin Journal, vol. vi. p. 484.

§ Berlin Med. Zeitung, 1836. Lancet, May 20, 1837.

|| Medical Gazette, Nov. 21, 1835. See also Rognetta, Bull. de Therap. Med. Chir. Sept. 1835; Bellini, Bulletino delle Scienze Med. Jan. 1836.

orifice, taking care to remove as little as possible besides the mucous membrane, and to avoid wounding the bladder. The strip should be pear-shaped, the apex towards the os uteri.

The ligatures (three will generally be enough) should all be inserted before any are tied, and then we may commence with the one nearest the os uteri, which should be pressed inwards as each ligature is tied, until it enters the cavity of the pelvis, when the last is tightened.

In the majority of cases, hemorrhage did not occur; but in one case I witnessed, it nearly proved fatal some hours after the operation. To guard against this, it might be well not to tighten the ligatures or reduce the prolapse for a few hours.

The patient complains of no pain from the excision, except when dissecting about the os externum. Subsequently, the patient occasionally suffers from heat and pain in the vagina, with a slight discharge. Vaginitis may set in, and require the removal of the ligatures, and the employment of antiphlogistics.

The ligatures come away at various intervals, from a fortnight to three weeks or a month.

Cold vaginal injections should be given two or three times a day. The diet of the patient should be moderate, her bowels freed by enemata, and she herself kept in a state of perfect rest.

The success of this ingenious operation has been considerable. Dr. Hall's patient "was examined by Mr. Vincent, surgeon to St. Bartholomew's Hospital, at the beginning of the present month (November, 1833,) two years after the operation, and the uterus and bladder were found perfectly supported in their proper situation."

Professor Dietfenbach speaks of the complete recovery of many persons, owing to it.

One of Dr. Ireland's patients is perfectly well, and quite free from all the distressing symptoms of procidentia, or prolapse, and the uterus is maintained in its natural situation. The other failed. Mr. Hayden's case succeeded.

After repeating the history of Doctor Hall's case, Doctor Davis observes, "that the practice suggested by his friend's case cannot be considered an eligible one for child-bearing women, inasmuch as any considerable contractedness of the vagina, which the extraction of a large portion of its substance might be expected to produce, and which in practice it might not prove an easy thing to confine within any assignable limits, could not fail to render labor difficult, and even dangerous. Experience, and more correct knowledge than we now possess, of the extent of consequences to be expected from such an operation, may possibly eventually lead to a relaxation of the principle on which the practice here suggested professes to be founded."*

In his admirable "retrospective address" to the Provincial Medical

* Davis, Obstetric Medicine, vol. i. p. 567.

and Surgical Association, Mr. Cross remarks*: "The result has, in a great majority of instances, been favorable; and the most zealous pursuer of the method, Dr. Fricke, who has, in repeated correspondence, favored me with his remarks, refers to an instance of *episoràphie*, where the patient afterwards became pregnant, and was delivered by the forceps, without the artificial bridge giving way."* Dr. Fricke cured three out of four.†

It would not, however, be advisable to undertake the operation, unless the uterus, appendages, and neighbouring viscera were free from disease. It does not succeed so well with women of advanced age.

323. Several attempts have been made to cure the disease by diminishing the calibre of the vagina,‡ and procuring adhesion between its walls, or the opposite surface of the labia; but generally without success, in consequence of the indisposition of mucous surfaces to unite.

"M. Laugier cauterized a broad strip of the mucous membrane with the nitrate of mercury,"§ but it did not succeed; and Philips with nitric acid.‖

I have succeeded in two or three cases, by first lightly cauterizing a broad strip with nitric acid, and then introducing a "sachet" of matico or oak-bark, and allowing it to remain for some time, the patient preserving the horizontal position. The acid must be very lightly applied, just so as to shrivel the mucous membrane without forming a slough.

The application of red hot iron to the mucous membrane, so as to cause it to shrivel up and contract, has been proposed and tried by M. Laugier; but as I am not aware of the results, I can do no more than mention it. Dr. Evory Kennedy has tried this plan with success. I have known it fail.¶

The constitutional treatment of the patient, after the reduction of the prolapsus, will require care. Tonics may be necessary, and aperient enemata. For some short time the patient must avoid exertion, but after a few days she will be able to go about as usual, except in the more severe cases.

* This case has been published by Dr. Plath, in the Zeitschrift für die gesammte Medicin, vol. ii. p. 142.

† Transactions of the Provincial Medical and Surgical Association, vol. v. p. 92.

‡ Med. Chir. Rev. April, 1839, p. 610. Bellini, Annali univ. de Med. July, Aug. 1836.

§ Laugier sur la cauterization du vagin au fer rouge. Encyclop. des Scien. Med. vol. xxxvii. p. 192, Sept. 1835.

‖ Med. Gaz. May 18, 1839, p. 283.

¶ *Lancet*, June 8, 1839.

In some instances, where pregnancy has occurred with prolapsus uteri, or prolapsus uteri at the latter end of pregnancy, reduction has been effected; in others, it has been found impossible.

As to the treatment of the prolapse which has occasionally happened during labor, we are advised to dilate gradually the uterine orifice, so as to hasten the delivery; and, if necessary, to make one or two incisions into the cervix.

"If the woman is at the end of pregnancy, or if the womb was to descend during delivery, provided the os uteri came into sight through the external parts, I suppose it would be your duty to dilate the os uteri with the fingers, and in this way accelerate the birth of the child as much as possible; but if it was down a little way merely, I should not meddle with it, but leave the woman to her own resources. But if in the latter months the womb were lying externally and between the limbs, and it could not be put back, I should recommend the bringing on of delivery by puncturing the membranes; and then, when parturition came on, I should as before assist in dilating the os uteri. In Hervey's case, it was proposed to extirpate the uterus; but I certainly prefer the induction of parturition before extirpation."*

CHAPTER XXIII.

INVERSION OF THE UTERUS.†

324. INVERSION of the uterus differs widely from prolapse; for, in addition to the depression common to both, in the former the uterus is

* Blundell on Diseases of Women, p. 43.

† Denman's Midwifery, p. 419. Burns' Midwifery, p. 555. Campbell's Midwifery, p. 352. Davis's Obstetric Medicine, vol. ii. p. 1084. Dewees on Diseases of Females, p. 248. Manning on Diseases of Women, p. 285. Baillie's Morbid Anatomy, p. 387. Clarke on Diseases of Females, vol. i. p. 149. Ingleby's Facts and Cases in Obstetric Medicine, p. 221. Boivin and Duges, Diseases of the Uterus, p. 113. Martin's Memoirs, p. 185. Dict. de Med. et de Chir. prat. art. Renversement de la Matrice. Welsh, Med. and Phys. Journal, vol. v., p. 450. London Medical Journal, vol. ii. p. 12; vol. vi. p. 367. An-

turned inside out. The fundus descends through the os uteri, forming a cavity lined by the peritoneum, open towards the abdomen, and containing the ovaries and fallopian tubes; whilst that which was formerly the lining membrane of the uterine cavity has become the external covering of the tumor.

The degree of inversion may vary: it may be either *partial* or *complete*. Mr. Newnham, who has published a valuable monograph on this subject, has spoken of three degrees—*depression*, *partial*, and *complete* inversion. With regard to the first, he observes: "The fundus of the uterus is depressed within its cavity, but does not form a tumor in the vagina. The actual existence of this stage of the disease can only be known by introducing the finger into the uterus, and by ascertaining the state of the organ by pressure upon the abdomen. By the *former process*, the fundus of the womb will be found to have approached the os internum; and by the latter, a corresponding depression will be observed, instead of that regular contraction which is so familiar to every prudent practitioner. This state is generally accompanied with an effort to bear down, by which it is often converted into *partial* or *even complete* inversion." Of course, so slight a change in the uterus is only perceptible through the parietes of the abdomen, when the patient has been recently delivered. In the unimpregnated uterus, such an examination would yield no information.

"When the inversion is *partial*," continues Mr. Newnham, "the fundus of the uterus is brought down into the vagina, forming a tumor of considerable size, presenting a semi-spherical form, and closely invested by the os uteri. In this case the depression of the fundus, observed through the parietes of the abdomen, will be considerably greater than in the former, and the edge of the cavity thus formed will alone be felt.

"In the *complete* inversion, the uterus will be found not only filling the vagina, but protruding beyond it, resembling in its form that of the uterus after recent delivery, only that its mouth is turned towards the abdomen. The os uteri may be felt at the superior extremity of the tumor, forming a kind of circular thickening at its apex, and the uterus is wholly wanting in the hypogastric region. This is usually accompanied with inversion of the vagina."*

nals of Med. vol. ii. p. 227; vol. iv. p. 336; vol. v. p. 340. Med. Comment. vol. xvi. p. 315; vol. xix. p. 155; vol. xx. p. 247. Edin. Med. and Surg. Journal, vol. xii. p. 217. Mem. of Med. Soc. vol. iii. p. 202; vol. vi. p. 118. Cramer, Neue Zeitschrift für die ges. heilkunde, June, 1839. Field, *Lancet*, July 11, 1840. Crosse on Inversio Uteri.

* An Essay on the symptoms, causes, and treatment of Inversio

325. Inversion may occur under very different circumstances; as, for example:—1. *Immediately after delivery*,* as the result of a peculiar condition of the uterine fibres; of too quick delivery, &c.—2. *A few days after parturition*, though Newnham conceives that in these cases *depression* of the fundus existed from the first.—3. Or *very gradually*, in consequence of a polypus attached to the fundus, the uterus not being pregnant.† Capuron and Newnham doubt the existence of such cases; but I shall cite one hereafter, which I witnessed myself, and of the nature of which no doubt could be entertained.

We may be deceived, however, and suppose an inversion to have occurred gradually, because it has remained long undiscovered. Levret mentions a case occurring after delivery, which was not detected for five years.

By almost all authors, inversion has been divided into *acute* and *chronic*; not, however, confining the term chronic to cases where the production of the inversion has been slow, but including all those where it has existed for some time. The division appears to me to be useful and practical, though perhaps not conveying as much information as the terms '*reducible*' and '*irreducible*,' which my friend Dr. Radford‡ of Manchester has recently proposed as a substitute.

326. *Causes.*—Various causes are enumerated by authors, some of which are real, and some only fanciful. Most of them, however, are such as would act merely mechanically. It has been observed to follow very quick labors, especially if the patient be delivered standing,§ or if she make too violent efforts.

It may occur spontaneously, after the labor has been completed quite naturally, and in these cases it has been attributed to atony of the uterus, or to active contraction of one part, with an atonic condition of another.

At the end of Denman's observations upon inversion, Dr. Waller subjoins a case related to him by Dr. Williams of Guildford-street, which convinced him of the possibility of spontaneous inversion. "The Doctor had attended a lady in her fourth labor; the pelvis was of ample dimensions the child soon expelled. The funis was tied, and the child separated: immediately afterwards there was a *long* ex-

Uteri, &c. by William Newnham, Esq. pp. 2, 3. I feel great pleasure in acknowledging my obligations to this admirable essay.

* Williams' *Lancet*, July 27, 1839.

† Jourdan, Dict. de Med. vol. xxiii. p. 289.

‡ Essay on Inversion of the Uterus, in Dublin Journal for Sept. and Nov. 1837.

§ Medical Communications vol. ii.

pulsory pain, by which Dr. W. naturally enough inferred that he should find the placenta detached and thrown off. On regaining his seat by the side of the bed, and making an examination, he felt a large substance protruding from the vagina, which proved to be the organ in an inverted state. The organ, with the placenta still adhering, was promptly returned to its proper situation, and every thing went on favorably."*

Dr. Radford relates the following case:—"The subject of this accident was Mrs. Birch, of Great Bridgewater-street, a well-formed, healthy young woman, and this was her first confinement. I was summoned to her on the 17th day of May, 1826, about three o'clock in the afternoon. I found her walking about the room, with pains, bearing down and effective. In a short time after my arrival, whilst leaning forward on the bed, she was delivered of a fine healthy male child; from this position (as soon as the child was separated) she was removed carefully into the bed; in less than ten minutes she had a slight pain or two. My patient expressed some fears lest the placenta '*should stick;*' but on my making an examination *per vaginam*, I distinctly felt the insertion of the funis into the placenta, and relieved my patient of her fears as to its being retained unduly. I had scarcely assured her that all was likely to terminate well, when she was suddenly seized with a violent bearing down pain; and on making a further investigation, I discovered what I took, for the instant, to be the placenta pushed forward by a second child's head; but having recourse to ocular investigation, I was soon undeceived in this respect, and found the uterus inverted, and which had passed externally from the vagina, and the placenta attached to it. I felt very much alarmed for the fate of my patient. I first peeled the placenta from the fundus uteri, and then grasping the extruded part with my hand, I did not find it very difficult to re-introduce it into the vagina, and to carry it through the os uteri. I followed with my hand, or rather pushed it forward, when I observed it suddenly start from me, as a piece of india-rubber would. I was now called by the nurse to examine the state of my patient, which indeed was very alarming. Her face became suddenly pale, and bedewed with cold sweat; her pulse was rapid and unsteady, there was great prostration of strength, and a threatening of convulsions and death. Brandy and laudanum were immediately administered in free doses, hot flannels and frictions were applied to the extremities," &c. She ultimately did well; and the author adds, "I would remark, first, that this inversion was entirely spontaneous, as I had not even taken hold of the funis at the time it happened. Secondly, as there was no hemorrhage, and as the re-inversion was effected in a few seconds, it is somewhat difficult to account for the sudden depression of the vital powers,

* Waller's Edition of Denman's Midwifery, p. 244, *note*.

amounting nearly to dissolution." "It appears to the writer, that the uterine pain, diminution of bulk, firm resisting feel, sudden formation, and rapid protrusion, warrant him in the deduction, that the *fundus* and *body* of the uterus, so far from being in a state of *collapse* or *relaxation*, are really in a state of *unnatural excitement* and *action*. But this is not the case with the os uteri; on the contrary, it is soft and yielding, as we find that it offers no resistance to the coming down of the tumor, whose protrusion is forcible and rapid. "From what has been stated, it may be concluded that quick labor, whether natural or artificial, or a disturbance of this process in any of its stages, and all those circumstances which produce irregular contraction of the uterus, are, singly or combined, the causes of inversion."* Nauche considers the inactive state of the uterus, and some effort made by the patient, or by an attendant pulling the cord, as the principal causes.† Capuron enumerates, as *predisposing* causes, the development of the womb, the dilatation of its orifice, and the atony or flaccidity of its walls. The *exciting* causes may be the weight of the fundus, violent expulsive efforts, traction by the funis, and the dragging downwards by a polypus.‡ Henkel attributes this accident to violent after-pains; Meissner to a bodily pre-disposition, owing to a laxity of fibre. Siebold says, that atony of the uterus, with a large pelvis, and the too rapid abstraction of the contents of the uterus, may expose the patient to inversion.§

Boivin and Dugès enumerate, as among the principal causes of inversion, a flaccid distensible state of the uterine parietes; inertia of the uterus, especially if at the same time an effort be made for the extraction of the placenta; irregular uterine contraction, too prominent sacral promontory, dragging at the cord, and uterine polypus.‖

It is very credible, that violence in extracting the placenta may be followed by inversion;¶ or, as Denman observes,** "there is reason to believe that the uterus has been inverted, when, on account of hemorrhage, or some other urgent symptom, the hand has been introduced within the cavity of the uterus, while in a collapsed or wholly uncontracted state, and the placenta being withdrawn before it was perfectly loosened, the fundus of the uterus has unexpectedly followed, and a complete inversion has been occasioned." Forcibly pulling the

* Radford's Essay in Dublin Journal.
† Mal. prop. aux Femmes, vol. i. p. 131.
‡ Mal. des Femmes, p. 495.
§ Handbuch der Frauenzimmerkrankheiten, vol. iii. p. 365, et seq.
‖ Diseases of the Uterus, p. 117, et seq.
¶ Manning on Female Diseases, p. 285.
** Midwifery, p. 421.

funis, for the purpose of detaching the placenta, may perhaps, under certain circumstances, give rise to this accident; but it is not a frequent cause.

Shortness of the funis, or the shortening of it by coiling round the neck of the fœtus, has been alleged, but I believe without any foundation. Cords of eight inches long will permit, and have permitted, the exit of the fœtus without displacing the womb, and it is very rare indeed to find the funis so short.

"The practice of pulling too early and too violently at the cord," says Mr. Radford, "after the expulsion of the child, before the uterus has contracted, so as to detach and expel the placenta, has been generally considered as the cause of inversion. But we know that the accident happens before any force has been applied to the funis.* In case 4th, the descent was so rapid and forcible through the os externum, that it would have been quite impossible to have resisted the unnatural action by which the organ was carried down. It has occurred when the patient has been delivered of a dead child, the funis being so putrid as to break with a very slight effort. It has been found before the cord was separated, and the child given to the nurse. In the practice of Ruysch, this circumstance took place after he had extracted a dead child," &c. "Some writers have thought that a short funis is a frequent cause of inversion; whilst others think, in order to act, it must be inserted in the centre of the placenta, and that this mass must be attached to the fundus uteri. Now it is evident that if the brevity of the cord is capable of producing so serious an accident, this peculiarity will greatly add to its influence. But amongst the published cases of inversion, there is, so far as the writer knows, but one where this shortness existed.† It often occurs without diminished length in the cord, whilst, on the contrary, children are frequently born where it is very short, and yet no such accident happens.‡ The funis has been ruptured, and yet the uterus was not inverted."§

As to the shortening of the cord when it is twisted round the neck, this can never be the cause of inversion, inasmuch as it rarely occurs

* Radford's cases; Dr. Albers, in Duncan's Annals of Med. vol. v. p. 390; Mr. Windsor, Med. Chir. Trans. vol. x. p. 395; Mr. Dickenson's case, Med. Gaz. No. 372; Dr. Dewees' case, &c. Smith, Med. and Phys. Journal, vol. vi. p. 503. Brown, Mem. of London Med. Soc. vol. v. p. 202. Welsh, Med. and Phys. Journal, vol. v. p. 451. Obs. Anatom. Chir. obs. 10, p. 13; *trans.* p. 34.

† Dr. King's case, Glasgow Journal, vol. i. p. 17.

‡ Med. and Phys. Journal, vol. lv. p. 205.

§ Gifford's cases, No. 92, 127, 175, 194, 199; Perfect's cases, No. 109, 132; Ramsbotham's cases, No. 28, 31, 32, 33, 34.—*Radford's Essay.*

but when the cord is longer than usual, and it very seldom reduces the length of the cord below twelve inches.*

But inversion may occur quite unconnected with parturition, contrary to the assertion of Astruc,† and some of the older writers. If a tumor form at the upper part of the fundus uteri, it will first distend the uterus mechanically, and then by its weight it may descend through the os uteri, dragging the fundus after it, and so produce complete inversion.‡ Such a case I saw in Jervis-street Hospital, and I am enabled to add the particulars by the kindness of Dr. Montgomery, to whose care the patient was confided by Surgeon Lynch.

Bridget Mahon, aged 52, mother of ten children; her last confinement took place nine years ago; admitted into Jervis-street Hosptial June 5, 1835, under Surgeon Lynch; was seized about three years ago with whites, which continued for two years: she attributes the attack to excessive mental anxiety and fatigue. Her health, from the commencement, gradually declined; the debility and emaciation became so great, that she was frequently obliged to remain in bed. Being seized with a severe fit of vomiting, she experienced a sensation as if something within her had given way, but did not make any examination at the time; about three days afterwards was alarmed by the appearance of a tumor at the external parts, which she reduced by moderate pressure with the fingers. It remained so for three months, the discharge still continuing. One day she sat down to pass water, the tumor again appeared, but was reduced, and remained so for the next twelve months. On the 1st of June, as she stepped over a potato-furrow, the tumor was completely expelled, suspended between the thighs, in which state it still remains. Her labors were all easy, and during the whole course of the disease she did not experience any difficulty in emptying either the bladder or rectum. The tumor consisted, at the lower part, of a large double-headed polypus, attached by a thick and very short pedicle to the fundus uteri, which was completely everted, and formed the upper portion of the protruded tumor.

A curious case of this kind is also related by Dr. Browne, in the Dublin Medical Journal.§

327. *Symptoms.*—We shall first examine the symptoms which arise in *acute* inversion, *i. e.* when it occurs soon after delivery, and when the

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* For greater detail, I must take the liberty of referring the reader to a paper I published in the Dublin Journal, vol. xi. p. 21, on the Length of the Cord, &c.

† Diseases of Women, vol. ii. p. 228.

‡ Mal. prop. aux Femmes, vol. i. pp. 132 and 192.

§ Vol. vi. p. 33.

A similar case is related by Leblanc (Mem. des l'Acad. de Chir.

displacement is nearly or quite *complete*. These are always serious and alarming, indicating the important nature of the accident. The most universal symptom is sudden exhaustion, or sinking, which comes on immediately after the inversion. It does not depend upon flooding, for it occurs in many cases where there is no hemorrhage. The countenance becomes deadly pale, the voice weak, the pulse rapid, small, and fluttering, nausea and vomitings occur, &c. so that the patient is suddenly threatened with the utter extinction of life.*

Several authors speak of more decidedly nervous symptoms, and even of convulsions;† but by some, at least, the restlessness and agitation preceding dissolution appear to have been mistaken for convulsions.

When the inversion is slighter in degree, these phenomena will generally be found less strikingly marked.

Hemorrhage, even to a very large amount, not unfrequently occurs, aggravating, though not changing, the symptoms already enumerated, and materially enhancing the danger of the patient.

Mr. Newnham observes: "When the uterus has become inverted, immediate hemorrhage takes place, which is quickly followed by faintness, and a sense of fulness in the vagina; and in the greater number of instances, almost by immediate dissolution."‡

Our suspicions of inversion will be excited when this persists longer than usual, and examination should instantly be made to ascertain the cause, if possible.

Speaking of the duty of examining a patient carefully, in whom there are suspicions of inversion, Denman observes: "The reasons advanced to prove the necessity of ascertaining the inversion, are—

"1st. That the patient may be relieved from her present danger.

"2nd. That a part of so much consequence may not be suffered to remain in that state, even if there were no hemorrhage, or symptoms of immediate danger.

vol. iii. p. 379), of a female who "was attacked with violent pains after suppression of the menses for three months, and to these succeeded considerable hemorrhage, which was followed by the protrusion of a voluminous fleshy mass. Leblanc recognised a retroversion (*inversion*) of the uterus after a minute examination: he restored the uterus, and the woman recovered perfectly."—*Naucke, Mal. prop. aux Femmes*, vol. i. p. 131.

* Case of inversion of the uterus, by Dr. Albers of Bremen, in Duncan's Annals of Med. 1800, p. 390.

† "Fainting and convulsions are not unfrequent attendants, although the hemorrhage have been trifling."—*Burns' Midwifery*, p. 518.

‡ Essay on Inversion, p. 86.

"3rd. That if it were not soon replaced, it could not, after a very short time, be restored to its proper situation."*

In many cases, however, there is no hemorrhage at all, (*Brown*,† *White*,‡ *Albers*,§ *Chapman*,‖ *Hamilton*,¶ *Radford*,**) or not in proportion to the inversion, (*Newnham*, *Dailliez*, *Burns*,††) but merely the nervous symptoms and exhaustion; nor does the difficulty of rallying the patient seem to be less in these cases than in those accompanied by flooding.

There is generally a very violent uterine contraction, immediately preceding or accompanying the inversion, leading the patient to anticipate a second child. This suspicion is further confirmed by the pressure of the inverted uterus as it passes through the pelvis. Even after examination *per vaginam*, we may be deceived by mistaking the uterus for the breech of a second child.

The patient complains of great pain, with a sense of dragging from the loins, and occasional retention of urine. If pressure be made on the abdomen, we shall not be able to feel the contracted uterus; and this being at a time when it is large, constitutes a marked and valuable symptom.**

When the inversion is incomplete, we may often feel the uterus above the brim of the pelvis, but having a cup-like depression superiorly.

If we examine *per vaginam*, we shall find a tumor either in the cavity of the pelvis or hanging through the vulva. This tumor is

* Midwifery, p. 420.

† Annals of Medicine, vol. ii. p. 278.

‡ Med. Comment. vol. ii. p. 268.

§ Annals of Medicine, vol. v. p. 392.

‖ Treatise, p. 123.

¶ Med. Commentaries, vol. xvi. p. 316. Midwifery, p. 420.

** Mr. Radford suggests that the assumption of considerable hemorrhage having occurred may have been taken up on too slight grounds, rather from the exhausted and apparently exsanguined condition of the patient, than from an accurate estimate of the quantity of blood lost.

†† "The pain is obstinate and severe; she feels very weak; the countenance is pale, the pulse feeble, perhaps nearly imperceptible; a hemorrhage very generally attends the accident, and is often most profuse. But it is worthy of notice, that frequently complete inversion is not accompanied with hemorrhage, whilst a very partial inversion may be attended with a fatal discharge."—*Burns' Midwifery*, p. 518.

** Denman's Midwifery, p. 420.

globular, sensible,* elastic, with a rough and bleeding surface, wider below than above, where it is tightly encircled by the cervix uteri. If the displacement be not reducible, it sometimes happens that the tumor is attacked by inflammation, running on to sloughing and gangrene, owing to the strangulation caused by the contraction of the cervix, and ending in the death of the patient.† If the placenta have not been previously expelled, it will be found adherent to some part of the tumor, adding greatly to its bulk.

A considerable difference in the size of the tumor will be observed, according as the inversion is *complete* or *incomplete*, recent or of old standing.

"In the fourth degree (complete inversion), which is the most rare, the volume of the tumor is commonly larger than that which the uterus ought to present, even immediately after delivery; it is then, in fact, distended by portions of intestine, together with the fallopian tubes and ovaries. Several cases of this kind are upon record, the earliest of which is that of Stalpart Vanderwiel, in which the intestines were laid bare after death by an incision of the tumor, still in its situation between the femora. Baudelocque has given a case somewhat similar, and Ruysch has drawn a tumor, the volume of which is six inches in all directions. We learn from Levret that the sac formed by the inverted uterus and vagina, in the case of a person seventy years of age, was filled with a portion of the rectum, of the bladder, and of the small intestines, and with the fallopian tubes and ovaria."‡

If quite *complete*, we may acquire further information from a visual examination. The tumor is of a red color when the inversion is recent, but gradually becomes of a dull brown.

"The tumor, which may be felt even outwardly, is commonly voluminous, soft, partly reducible, of a red-brown and blood-color; moist, in the earlier periods at least; paler at times, and dry after a long while; increasing and diminishing at intervals, when it encloses portions of intestine: the finger introduced between its surface and the parietes of the vagina, discovers a *cul de sac* at a height which varies, and always presents previously a circular band, projecting upon the base of the tumor, to which it belongs." In minor degrees of inversion, "the tumor, less voluminous, and concealed, may still be seen

* Ruysch (p. 63,) relates a case of inversion, where the practitioner "cut a little way into the tumor with the point of his knife, in order to discover what it was." A mode of examination more original than safe. The patient died of hemorrhage.

† Astruc, Diseases of Females, vol. ii. p. 228. Manning on Female Diseases, p. 285.

‡ Boivin and Duges, Diseases of the Uterus, p, 114.

by means of the speculum: its surface is to be found smooth and moist, of a deep red color, and sometimes covered with ecchymoses; when the displacement is recent, even the orifices of the uterine sinuses may be observed exuding blood; but we do not perceive the os uteri any more than in the former cases—a circumstance which at once distinguishes inversion from prolapsus of the uterus."*

If *incomplete*, we shall still be able to detect it in the vagina; though if there be *depression* merely, we may not be able to reach it.

328. The foregoing are the most prominent symptoms of *acute* inversion; those which characterise the *chronic* stage of the disease, whether that stage be the issue of an *acute* attack, or the result of a gradual displacement, are of course much less formidable.

The patient is subject to occasional irregular hemorrhages, and to a constant profuse mucous discharge during the intervals.† Every month the surface is observed to be covered with red drops, which are, in fact, the menses.‡

The patient complains of pain, a sensation of weight in the pelvis, and dragging from the loins. If the uterus protrude through the external parts, its sensibility will gradually diminish, in consequence of the formation of a kind of epithelium upon its surface; and if it be exposed to rude contact, or if acrid secretions be allowed to accumulate upon it, circumscribed inflammation may occur, followed by ulcerations, either superficial or profound, and involving some danger to the patient if not remedied. The constitution of the patient sympathises deeply with so extraordinary an accident. After recovery from the state of exhaustion, or nervous depression, into which she was at first thrown, the repeated hemorrhages and constant leucorrhœa will render her countenance pale and exsanguined, and subject her to various secondary symptoms, such as syncope, dropsical effusions, hectic, &c.

329. *Terminations.*—The patient may die from exhaustion, or from hemorrhage, soon after the accident (*Heister*,§ *Peu*,‖ *Leret*, *Giffard*, *Windsor*, *Clarke*, *Denman*,¶ *Boivin and Dugès*), or from the more

* Boivin and Dugès, Diseases of the Uterus, p. 120.

† Gardien, tom. iii. pp. 325, 326.

‡ Clarke, Diseases of Females, vol. i. p. 154.

§ Heister's Surgery, vol. ii. p. 559.

‖ Practique des Accouch. pp. 585—587.

¶ "Uterine hemorrhages, following the extraction or exclusion of the placenta, though often apparently dangerous, very seldom prove fatal; yet now and then we hear of a patient dying from this cause. May it not be suspected, that in such cases there was an inversion of the

distant consequences of the repeated hemorrhages. (*Mauriceau*,* *Haighton*,† *Cooper*,‡ *Windsor*.)

Fatal cases are also related by Peu, Portal,§ Vanderweid and Millet, Chapman,‖ Saviard,¶ Heister,** Smellie,†† and Mauriceau.‡‡ Boivin and Duges add, that "death following a very few days after the inversion may have been occasioned by pains, convulsions, and syncope, caused even by the violence which the uterus has undergone."

Distension and inflammation of the bladder may occur, involving considerable danger.§§

The inverted uterus may be strangulated, and be separated by sloughing or gangrene, with great danger, although cases are on record where this termination issued favorably. (*Radford, Capuron, Cooke*.‖‖)

Or, if the patient do not shrink from the primary shock, and if no destructive process take place in the tumor, it will after a while shrink very much in size, and the patient may suffer comparatively little annoyance. Denman¶¶ mentions the case of a patient who consulted him for an inverted uterus, twenty years before her death; and Delamotte another, "in which the inversion was complete thirty years before."***

Dr. Davis sums up his considerations as follows:—

"1. Inversion of the uterus, in a state of great development, may be the result of traction applied to its interior surface, either in consequence of diseased contents, or as a result of too much pulling of the umbilical cord in removing the placenta. Under such circumstances, what is so likely to happen as inversion of the uterus, complicated, most probably, with a profuse discharge of blood? The only treatment which could meet the exigency of a case of that kind, would be

uterus, partial or general, which, together with hemorrhage, is always attended with dreadful disturbance of the whole nervous system."—*Denman's Midwifery*, p. 422.

* Traité des Accouch. vol. ii. p. 294.

† MS. Lectures.

‡ Surgical Dictionary, art. Inversion of the Uterus.

§ Obs. 76.

‖ Midwifery, case 29.

¶ Observ. 15 and 36.

** Observ. case 369.

†† Midwifery, vol. v. case 3, p. 444.

‡‡ Observ. 355, 398, 685.

§§ Burns' Midwifery, p. 519.

‖‖ Ryan's Journal, March 12, 1836.

¶¶ Midwifery, p. 421.

*** Boivin and Dugès, Diseases of the Uterus, p. 115.

the separation of the placenta, and immediate reduction of the inverted womb.

"2. Under the circumstances now supposed, the death of the subject has often taken place in less than half an hour after the accident. Hence the expediency of admitting no delay in the use of preventive measures.

"3. The nature and even the fact of the accident have often not been discovered till after the lapse of many days, weeks, or months, subsequently; and in a smaller proportion of cases, not till after the death of the subject.

"4. Some women, who become the subjects of inversion of the womb, not only survive its displacement for many years, but also escape, in a surprising degree, its ordinary consequences.

"5. More frequently, this displacement of the womb, when not speedily fatal, is attended by exhausting hemorrhages, both periodical and occasional, as well as by other forms of morbid profluvia.

"6. The uterus has been removed by ligature, both with and without the addition of excision below the ligature. From the results of the cases he has himself seen, the author feels quite prepared to recommend strongly the extirpation of the inverted womb, in all cases when the health is found to sustain much injury from the previous malposition. The operation is best performed by passing a double ligature through the centre of the inverted neck, and including within each loop its own moiety of the entire substance to be strangulated. If previously within the cavity of the pelvis, the inverted womb should be brought down, so as to appear beyond the labia. In this situation it is manifest that a great advantage must be secured for the easy and effective application of the ligature, as well as for the subsequent excision of the part below the ligature."*

Very rarely, the detruded organ has become the seat of malignant disorganization, either cancer or corroding ulcer.

330. *Diagnosis.*—The facility of the diagnosis will depend very much upon the extent of the inversion: when incomplete, it is very difficult; and even when complete, it will often require great care. It is less obscure if the examination be made soon after the accident.

"It is generally remarked, that *inversio uteri* may be distinguished from polypus of that organ, by the *os uteri not encircling the former tumor in cases of complete inversion*; and by *the impossibility of passing the finger around the neck of the tumor, between it and the os uteri, where the inversion has been only partial*; by *the form of the tumor*, *polypus* being *broad at its base*, and attached by a *narrow peduncle*, while the *inverted uterus is broader above than below*; by the *insensibility* of the tumor in the one case, and by its extreme sensibi-

* Obstetric Med. p. 1088.

lity in the other: by the *comparative fixity* of the one tumor, and the *extensive sphere of motion* of the other; by the *rough and fungous surface* of inversio, contrasted with the *smooth and polished* circumference of polypus, and by the previous history of the patient's disease. But it is clear that these diagnostics are liable to a great degree of uncertainty, as appears from the contradictory statements of various authors; from the consideration that *the first and second rules are chiefly applicable to very recent cases of inversion*, or to *those instances in which partial inversion has taken place, but has not carried down the fundus of the uterus in any great degree through the os uteri*; from the fact, that in the case just related, *the neck of the tumor was certainly smaller than its base*, and *the finger could be freely passed as far as it could reach within the os uteri*, and *around the inverted portion of the uterus*; from the *difficulty of distinguishing obscure sensibility of the tumor itself* from *the sensibility of neighbouring organs, roused into feeling* by the *irritation* of examining the parts; from the *vagueness* of the diagnostic, arising out of the *comparative fixedness* of inversio and polypus, which must depend so entirely on the size of the *body of the tumor*, as well as the broadness of its stem, where it is attached to the uterus; from the *fact*, that according to the *length of time* which has elapsed since the inversion, and from other circumstances, its surface will be *rough and fungous-like*, or *smooth and polished*; from the *possibility* that the *same phenomena* may have attended the *history of each form of disease*; and from the fact that *polypi* and *inversion of the uterus* have been *repeatedly* and *interchangeably confounded* one with another."*

Although Mr. Newnham has succeeded in showing the uncertainty of each of the diagnostic marks, and has elucidated the great care necessary in forming our conclusions, still he has not shewn that a combination of these signs may not be conclusive; nor has he proved that all our efforts will be in vain.

The following references will show that I am not singular in this opinion:—

Dr. Baillie says that "when the inversion is complete, it can be ascertained by an examination of the tumor."†

Dr. Haighton‡ relies for diagnosis upon the history of the case, and the sensibility of the tumor principally.

Sir C. M. Clarke§ says, "An examination being made, a tumor is found either in the vagina, or hanging out of the external parts. Such a tumor may be mistaken for a polypus; but in the latter disease, the os uteri encircles the tumor: in inversion of the uterus,

* Newnham's Essay, pp. 53, 54, 55.

† Morbid Anatomy, p. 391.

‡ MS. Lectures, 1809, quoted by Mr. Newnham, p. 76.

§ Diseases of Females, vol. i, p. 158.

the os uteri forms a part of the tumor itself: moreover, the inverted uterus is sensible; polypous tumors, on the contrary, are void of feeling."

"In distinguishing an inverted uterus from polypus," says Dr. Blundell, "it may be no small help to recollect, that a genuine polypus is totally insensible; and that a great deal of pain may be felt on constricting the ligature if the disease be inversio uteri; and this more especially some two or three hours after the constriction. There is, too, in some instances, a disposition to vomit."*

Fauchet† states the possibility of diagnosis from the following symptoms:—The absence of the uterus from its natural position, the sensibility of the tumor, its greater diameter being at the superior part, and its irreducibility.

Capuron,‡ after stating that it may be confounded with prolapsus or polypus uteri, goes on to say that the distinction must be sought in the shape and sensibility of the tumor, the presence of the cervix uteri at the upper part of the inversion, and by the neck of the tumor being short, instead of being long and thin as in polypus.

Siebold§ lays great stress, as diagnostic marks, upon the time of the occurrence of this displacement; upon the absence of the uterus from the abdomen; the form of the tumor, and of its stalk, &c.; at the same time that he admits that great care is sometimes required to distinguish it from polypus.

Boivin and Dugès‖ (as already quoted) adduce the absence of the os uteri from the lower part of the tumor, as distinguishing inversion from polypus, and then continue: "What distinguishes the case still more, is the height to which the finger may be carried between the tumor and the vagina; the finger thus passes when the hypogastrium is compressed with the other hand, to the os uteri, which forms a ring at the upper part of the vagina, and embracing the root of the tumor, *without adhering to it*; the finger may, in fact, be passed between the ring and the root of the tumor, but is soon checked by a circular *cul de sac*."

If *incomplete*, it may be mistaken for *polypus of the uterus*; but it will be distinguished by its bleeding and rough surface, by its sensibility, and also by the '*cul de sac*' within the os uteri.¶

* Diseases of Women, p. 143.

† Mal. prop. aux Femmes, vol. i. p. 131.

‡ Mal. des Femmes, p. 501.

§ Handbuch zur Erkenntniss und Heilung der Frauenzimmerkrankheiten, vol. iii. pp. 361, 362, 363.

‖ Diseases of the Uterus, &c. p. 120.

¶ Carus, Gynæcologie, vol. i. p. 381.

There can be no doubt, that polypi have sometimes been mistaken

2. If *complete*, it will resemble *prolapse of the uterus*,* but may be distinguished by the peculiar period of its occurrence, by the flooding, by the absence of vaginal covering, of the bladder anteriorly, and of the os uteri inferiorly.

3. It may be distinguished from *prolapse of the vagina*, by its hardness, its rough, flocculent, and bleeding surface, and by its unvarying size.

It should be observed, that the value of some of these distinctive marks is limited to a short period after the accident, and to those cases which occur after delivery; such, for instance, as the hemorrhage, the character of the surface, and the size of the tumor, &c.

331. *Treatment.*—1. Of *acute* inversion. Our first object is unquestionably to reduce the displaced organ, and if we are on the spot when the accident occurs, it is in general not very difficult. It is of the last importance that the reduction be attempted instantly. Every hour increases the difficulty; and the lapse of four or five, according to Denman,† may render it impossible. The period when the inversion becomes irreducible will be found to vary somewhat in different cases, and according to the experience of different practitioners.

There is also a great difference, according as the inversion is complete or incomplete. It has been stated to have been reduced sponta-

for inversion of the womb, and, under such impression, have been removed. It is of course no wonder that such cases recovered.—*Boivin and Duges, Diseases of the Uterus*, pp. 129, 130.

* "The tumor may be mistaken for procidentia of the uterus; but the difference may be detected by observing that there is no opening at its lower part. It is distinguished from procidentia of the bladder by being much more resisting, by its size continuing always the same, and by the impossibility of feeling the uterus behind it.'—*Clarke on Diseases of Females*, vol. i. p. 153.

† "The impossibility of replacing it, if not done soon after the accident, has been proved in several cases to which I have been called, so early as within four hours, and the difficulty will be increased at the expiration of a longer time. Whenever an opinion is asked, or assistance required, in those cases which may not improperly be called chronic inversions, it is almost of course that the reposition should be attempted; but I have never succeeded in any one instance, though the trials were made with all the force I durst exert, and with whatever skill and ingenuity I possessed: and I remember the same complaint being made by the late Doctors Hunter and Ford; so that the reposition of a uterus which has been long inverted may be concluded to be impossible."—*Midwifery*, p. 420.

Cases of a much longer standing, however, than four hours, have been repeatedly reduced. (See page 350.)

neously, when the fundus uteri was merely depressed,* and even when the displacement was complete.

But no anticipation of such an occurrence will justify our losing a a moment in attempting to reinvert the uterus. The protruded organ should be grasped firmly, and passed in through the vaginal orifice, followed by the hand† (previously well oiled), which, when in the vagina, should be closed and formed into a cone, and made to press mainly upon the fundus uteri.

Newnham‡ remarks, "It has been made a question whether the finger of the operator should not be defended by some soft linen; and mechanical means have been proposed: but it is obvious how improper must be all such contrivances; and it is clear, that the best instrument is the cautious introduction of the hand, well smeared with some fatty substance, and its *gentle* and judicious employment."

Burns‡ directs us to "proceed directly to endeavour to return it within the os uteri, by cautiously grasping the tumor in the hand, and pushing it upwards within the os uteri. This may be facilitated by pressing upon the most prominent part of the fundus, in the direction of the axis of the uterus, so as gradually to undo the inversion, or reinvert the protruded womb."

Mr. Radford§ objects to this, on account of the fundus being, "after the os uteri, the most irritable part of this organ. When the accident has existed a short time, pressure upon this portion induces pain, bearing down, and hemorrhage; but the body may be taken hold of and compressed. If we could press the fundus upward, and thereby dimple it within itself, we should find ourselves opposed by a double inflection, for the body would be grasped by the os uteri, and the fundus would be within the body. It is obvious that our force should be directed so as to act upon the angle of inflection, or where it turns into itself."

No effect will be produced upon the inversion until the vagina shall have been put upon the stretch; but then, after some time, it will be found to recede; and on being still further pressed, it suddenly starts from the hand (like a bottle of india-rubber when turned inside out), and the organ is restored to its natural condition.

The hand (now in the cavity of the uterus) is not to be withdrawn, but rather expelled by the uterine contraction. This will ensure the patient against a repetition of the accident. We should also assure

* Capuron, Mal. des Femmes, pp. 504—509.
† Essay on Inversion of the Uterus, p. 15
‡ Midwifery, p. 520.
§ Dublin Journal for Nov. 1837.
Carus, Gynæcologie, vol. i, p 383.

ourselves, before the removal of the hand, that the restoration has been complete.

Mr. Newnham advises that we should endeavour to "return first that portion of the uterus which was last expelled from the os uteri." It will be found very difficult to attend to this minutely, when the hand with the uterus is in the cavity of the pelvis, for want of room; and whilst the tumor is external, the re-inversion does not take place. It is expressly stated by several authorities, that they did not feel the reduction properly commence, until the vagina was stretched to its full extent.

In many cases, the placenta remains attached to the womb at the period of inversion; and different opinions have been held as to the propriety of removing it before reducing the displacement. Baudelocque, Gardien, Capuron, Boivin and Dugès, Radford, and others, recommend its prior removal; but Denman, Clarke,* Burns, Carus, Newnham, Blundell, Gooch, &c. as decidedly oppose it.

"The following objections may be raised to this practice (allowing the placenta to remain until after the reduction of the inversion): 1st. If the placenta adhere, its detachment will be more difficult after the replacement of the uterus. 2. This replacement is difficult enough in itself, without adding the bulk of the placenta to that of the uterus. 3. If we proceed with promptitude, we need not apprehend the consequences of hemorrhagy."†

In his essay on inversion of the uterus, Mr Radford remarks.‡ "The dread of hemorrhage is the reason assigned why the placenta should not be first detached; but the writer trusts that the cases he has adduced, and the references he has made, are sufficient evidences to the contrary. In no case has this dreaded effect been induced, or even aggravated, by a *complete* separation of the placenta. The uterine vessels are as effectually constricted, under this accident, as when the organ is in its natural situation, if the placenta be entirely detached; and flooding is produced here in the same manner as in ordinary cases, by a partial separation or disruption. As the greatest disadvantage arises from our failing in our first attempt. it is the more necessary that every impediment should be removed, so that we can proceed with the greatest chance of success. The attached placenta must increase the obstacle, because the fundus cannot be freely and sufficiently compressed. By detaching the placenta, great advantages are gained; the bulk of the part is diminished, the operator is enabled further to reduce the size of the fundus itself, by compression; and he has more freedom to judge of the changes he has effected.

Denman says, on the other hand, "The only point of practice

* Diseases of Females, vol. i. p. 152.
† Boivin and Dugès, Diseases of the Uterus, p. 124.
‡ Dublin Journal, Nov. 1837.

which occurs to me as likely to raise any doubt of the conduct we ought to pursue, is when, together with an inverted uterus, there is an adhering placenta. It would probably be then right to say, that if the placenta be partly separated, it would be proper to finish the separation before we attempt to replace the uterus; but if the placenta should wholly adhere, it will be better to replace the uterus before we endeavour to separate the placenta. The ground of this opinion is, that while we are separating the placenta, the cervix of the uterus is speedily contracting, and the difficulty of replacing it increasing, which is a far greater evil than a retained placenta."*

"If the inversion be quite recent," Carus observes, "and the placenta still adhere to the uterus, it is best to return the uterus before separating the former; but if it be in a great measure detached, which is by far the most frequent occurrence, it is advisable to separate it completely before returning the uterus."†

Siebold‡ advises that the placenta should not be detached, if the reduction can be accomplished without its removal; but if this be impossible, he advises its separation at once.

Mr. Newnham remarks: "It has been recommended by several respectable authorities, to remove first the placenta, in order to diminish the bulk of the inverted fundus, and thus facilitate the reduction. But it is surely impossible that this proceeding can be attended with any beneficial consequences, whilst the irritation of the uterus would necessarily tend to bring on those bearing down efforts which would present a material obstacle to its reduction, and would increase the hemorrhage at a period when every ounce of blood is of infinite importance." "Besides, returning the placenta while it remains attached to the uterus, and its subsequent *judicious* treatment as a simply retained placenta, will have a good effect in bringing on that regular and natural uterine contraction, which is the hope of the practitioner and the safety of the patient."

It may be doubted, I think, whether the removal of the placenta is attended with so much danger; for in many instances it has been found impossible to reduce the uterus, in consequence of the great addition to its bulk which the adhesion of the placenta occasions;§ and in such cases there is no hesitation about the propriety of removing the placenta, nor have I met with any evil effects recorded as the result of so doing.‖

When the tumor is in danger of strangulation from the circular band of the fibres of the cervix uteri, or in case such band should

* Denman's Midwifery, p. 422.

† Lehrbuch der Gynæcologie, vol. ii. p. 423

‡ Handbuch der Frauenzimmerkrankheiten, vol. iii. p. 375.

§ See Mr. Brown's case, Annals of Med. vol. ii. p. 277, (1791).

‖ Siebold, Handbuch der Frauenzimmerkrankheiten, vol. iii. p. 375.

seriously impede the reduction, it has been recommended to divide it with a bistoury.

Of course the bladder and rectum should be emptied previous to returning the uterus, unless we were present at the moment the accident occurs: at that period the operation occupies so short a time, that catheterism may be deferred until afterwards, and constipation for twenty-four hours will rather be an advantage. If the inverted uterus and the neighbouring parts should be much swollen, or if the patient be feverish, it may be necessary to take away some blood, and foment the parts, before attempting the reduction.

But should the disease be of some days' standing, are we to look upon the reduction as hopeless? Certainly not. There are cases on record, of the attempt having been successful after days and weeks have elapsed; and the condition of the patient is so distressing, that no means, however apparently unlikely, should be left untried. In Loffler's case, six or seven hours had elapsed: 17 in Mr. White's case; 24 in Mr. Wynter's; 27 in Mr. Dickenson's; three days in Mr. Cawley's; seven in Mr. Radford's (case 6); eight in MM. Ingleby's,* Chopart's, and Ané's; 10 or 12 in M. Lauverjat's; 13 in M. Hoin's; 12 weeks in Dr. Belcombe's;† and 16½ months in M. Valentine's case.‡

Plenck advises dilatation of the os uteri before attempting the reduction, and perhaps in some cases this may be possible.

If we succeed in restoring the womb to its natural state and situation, great care will be requisite to avoid a recurrence of the accident, or what is more likely, a prolapse of the uterus. The patient should remain longer than usual in the horizontal position, with the head low, the pelvis elevated, and the knees bent. A dose of opium will be found useful; and if there be much exhaustion, it must be repeated, and stimulants in proper quantity be given.

A pessary has been advised, in order to maintain the uterus in its place; but this will very rarely be necessary. When the lochial discharge has entirely ceased, it may be beneficial to use some astringent injections into the vagina once or twice a day, especially if leucorrhœa be present.

332. If the inversion be *irreducible*, we must then consider how far it may be advisable to content ourselves with palliative remedies; such as returning the tumor into the vagina, to protect it from injury, and supporting it either by a bandage and compress, as recommended by Dr. Hamilton for prolapsus uteri, or by a pessary.

"When the uterus cannot be replaced, we should at least return

* Facts and Cases, &c. p. 227.

† See also a case in the American Journal of Medical Science, vol. xvi. p. 81. Laurence, Med. Gaz.

‡ Review Med. Chir. Nov. 1847.

it into the vagina. We must palliate symptoms, apply gentle astringent lotions, keep the patient easy and quiet, attend to the state of the bladder, support the strength, allay irritation by anodynes, and the troublesome bearing down by a proper pessary." "A spring bandage is also useful. If inflammation come on, as is usually the case, we prescribe blood-letting, laxatives, &c. By these means the uterus may contract to its usual size, and the woman menstruate as usual, but generally the health is delicate. Sometimes the uterus becomes scirrhous, or gangrenous sloughs take place."*

Dr. Blundell advises the employment of astringent injections, for the purpose of arresting the 'menorrhagic bleedings,' "beginning with the weaker solutions, and then gradually increasing their strength, till you have reached the saturated solution, if necessary, and throwing up the injections largely, eight or ten times in the course of the day. The practice is peculiarly important when a woman is about forty-two, because if you can support her for some two or three years, till the monthly uterine action is over, the bleeding will most probably cease, and she will be no longer liable to the disease."†

Should this plan not be practicable, or fail of success, it may then be a question as to the propriety of extirpation.‡ There is abundance of evidence to prove that life may be preserved after the loss of the womb. Rousset relates a case, where the uterus was destroyed by gangrene, and the patient recovered; and Rousset, Primrose, Radford,§ and Cooke, have given cases, in which the uterus appears to have sloughed off without compromising the patient's life.

This being the case, there is every encouragement, within certain limits, to effect that removal by art which nature thus so beneficially accomplished. In this opinion Sir C. Clarke fully coincides. He observes: 'In those cases of inversion of the uterus where the woman has *passed the menstruating age*, when her comfort is destroyed by the disease, and when the profuseness of the discharge threatens her

* Burns' Midwifery, p. 521. Clarke on Diseases of Females, vol. i. p. 157.

† Blundell on Diseases of Women, p. 143.

‡ "Astringent applications, with attention to cleanliness, good diet, and the occasional use of opiates, may give relief; but if they do not, we are warranted to prefer extirpation of the uterus to certain death. This operation has been repeatedly successful, and is performed by applying a ligature high up, and cutting off the tumor below."—*Burns' Midwifery*, p. 521.

§ See his Essay, in Dublin Journal for September, 1837, case 3. Dr. J. C. Clarke has recently published his case in a pamphlet. The inverted uterus, with one ovary, separated shortly after delivery. The menstrual secretion was suddenly suppressed, and the sexual propensities ceased.

with death, from the debility which it produces, it may be advisable to recommend the performance of an operation which has been attended with success, viz. the removal of the inverted uterus itself." "How far it may be right to resort to this operation *during the menstruating part* of a woman's life, the author has no means of judging."*

The operation, however, has been performed during the 'menstruating part of a woman's life,' with complete success.

We may, therefore, conclude that the operation is perfectly justifiable, provided—first, that the patient is in a fit state of health for an operation; and secondly, that the uterus be not affected with scirrhus or cancer.

The operation has been successfully performed† by Ambrose Paré, Petit, Carpi, Schevogt, Vater, Lemmonier, Bouchet, Boudol, Dessault, Hunter of Dumbarton, Chevalier, Johnson, Hamilton, Clarke of Dublin, Windsor,‡ Davis, Hull, Blundell,§ Moss,‖ Lasserre,¶ Williams,** Newnham, &c. Other cases, less fortunate, are on record.

Mr. Newnham's case is so instructive, that an abstract of it may be given:—Mrs. Glasscock was delivered on the 21st of January, 1817, of her first child, after a natural labor. The funis was remarkably short, the placenta adherent, and much hemorrhage succeeded its removal; retention of urine supervened, requiring the use of the catheter. The patient consulted Mr. Newnham early in April, "on account of a *constant discharge* from the vagina, of a mucous character, accompanied with frequent hemorrhage." "On those days when she had the *least* discharge, it was still very considerable, and required

* Diseases of Females, vol. i. pp. 149, 150.

† For more detailed reference, the reader is referred to Newnham's Essay, p. 104, et seq.; Ed. Med. Comment. vol. xvi.; Ed. Annals, vol. ii.; Clarke on Diseases of Females, vol. i. p. 161; Davis's Obstetric Medicine.

‡ Medico-Chir. Trans. vol. x. p. 358.

The history of the case resembles Mr. Newnham's; the inverted uterus was separated on the eleventh day, partly by ligature and partly by excision. The patient suffered a good deal of pain, with considerable febrile action. Opium and aperient enemata afforded relief.

§ Diseases of Women, p. 144. See also the section on extirpation of the uterus (p. 272), in the present work.

‖ British and Foreign Med. Review, April, 1837, p. 561.

¶ Encyclo. des Sciences Med. vol. xxxvi. p. 179. In this case, the menses did not return. "Mais les femme est restée sensible aux voluptês conjugales."

** Lancet, July 27, 1839. See also Med. Chir. Review, Oct. 1830, Siebold's Journal, vol. v. p. 406.

seven or eight napkins in every twenty-four hours, in order to keep her comfortable: but the returns of active hæmorrhage were increasingly frequent, and were induced almost by the slightest exertion." Her constitution was seriously injured, and her appearance was that of a person suffering from large hæmorrhages. "On examination, I discovered in the vagina a tumor of considerable size, somewhat of a pyriform shape, *larger at its base than at its superior extremity, but not attached by a very narrow neck; surrounded at its apex by the os uteri, between which and the tumor the finger could be readily passed without discovering any immediate connexion; as far as I could ascertain, nearly insensible, and which had never occasioned pain.*" After a consultation with Mr. Oke of Farnham, it was decided to be inversion of the uterus, and it was resolved that its removal by ligature should be attempted on Sunday morning, April 13, 1837. The ligature, of very strong silk, was applied "as high as possible, upon the neck of the tumor, taking care to avoid including any part of the os uteri, by carrying the silk within the orifice." A full dose of opium was given, and the patient complained only of a little uneasiness on the sides of the hypogastric region.

On the 14th and 15th, the ligature was tightened, which gave considerable pain, and in consequence it had to be loosened. The opiate was repeated, and some aperient medicine ordered. On the 17th, there was much pain and some tenderness on the left side of the hypogastric region, with a quick pulse, which induced Mr. N. to remove the canula, and leave the ligature quite loose.

On the 18th, as all unpleasant symptoms had disappeared, the ligature was tightened, and an opiate enema given. From this day till the 6th of May the ligature was daily tightened; the pain continued until the 30th of April, after which it gradually diminished. On the 26th of April and 2nd of May, the patient became excessively irritable, but this subsided. The discharge was foetid after the 24th, and in considerable quantity after the 29th. "When the ligature was tightened, this evening (May 6th), the tumor became detached, and I found, to my no small satisfaction, that it was, as I believed, an inverted uterus."*

The operation consists in applying a ligature of silk, whip cord, fishing line, or silver wire, around the tumor at its highest part, and gradually tightening it, as the patient may be able to bear it, until the tumor is entirely separated. Or a double ligature may be passed through the centre of the neck of the tumor, and each half included in a separate ligature.

Or lastly, we may prefer, after tightening the ligature to a certain degree, to remove the tumor immediately, by cutting below the liga-

* Newnham's Essay, p. 31, et seq.

ture. Before doing this, it will be necessary to satisfy ourselves of the adequacy of the ligature to restrain any hemorrhage.

The symptoms which arise after the application of the ligature are just such as we might expect from the strangulation of so important a viscus. The patient suffers from nausea, vomiting, and pain, which gradually diminish in the more favorable cases, but which are the prelude to peritonitis in the fatal ones. When these symptoms are violent, it will be necessary to loosen the ligature, and wait some hours before again tightening it. A dose of opium should also be given, and the bowels kept free by enemata. The strength of the patient should be maintained by a nutritious, though not stimulating, diet.

If the inversion be caused by, or complicated with polypus, it may be necessary to remove both,* and the polypus should be excised before applying the ligature to the uterus.

* Jourdan, Dict. de Med. vol. xxiii. p. 290. Let me also refer the reader to Mr. Crosse's full and valuable essay, for more complete information on this and other points.

SECTION III.—DISEASES OF THE FALLOPIAN TUBES.

CHAPTER I.

INFLAMMATION OF THE FALLOPIAN TUBES.

333. THE fallopian tubes are obnoxious to much the same variety of morbid changes as the uterus and ovaries.* From their proximity to the latter, and their continuity of tissue with the former, they participate in all the more acute disorders of each. There is no doubt

* Davis, Obstetric Medicine, vol. ii. p. 760; Dewees, Diseases of Females, p. 257; Manning on Diseases of Women, p. 286; Astruc, Diseases of Females, vol. ii. p. 238.

"Excepting the inflammation of the fallopian tubes, which may be known by symptoms that are peculiar to it, the other diseases of them are not evinced by any sign in the beginning; and afterwards, the signs by which they are made known are so ambiguous, that scarcely anything can be concluded from them. It happens therefore constantly, that there are found, in the opening of dead bodies, illnesses and disorders of which there was not the least suspicion."—*Astruc.*

The following is Astruc's summary of the diseased conditions of the fallopian tubes:—

"1. They may be inflamed, and consequently they are liable to abscesses and gangrene.

"2. They may become scirrhous, either in their whole length, or otherwise at one of their ends.

"3. They may be covered with hydatids, as well on their external surface as on the interior; and some of these hydatids, by growing large, may form an hydatic dropsy.

"4. They may, besides, become dropsical, by a collection of serum, which fills their cavity, and dilates it beyond measure, as appears by several accounts.

"5. It may happen that the fecundated egg may stop in them, and fix itself to them; and that the fœtus, which is contained in it, may grow till it lacerates the tube, and kills the mother.

"6. Encysted tumors may be formed in the tubes, as in other parts;

that they may, and often are, diseased independently, but it is scarcely recognizable during life;* as, from their position, any symptoms to which they give rise will undoubtedly be attributed to an affection of their more important neighbours. When they are affected in common with these organs, their symptoms form a small part of the aggregate, and are so masked by the greater disturbance, that the morbid changes

and there may likewise be formed a kind of abscesses, which may have great affinity with them when the fecundated egg is retained in the tube, perishes there, and is converted into a thick corrupted matter; as it happens also in the *ovaria* in parallel cases.

"7. It has also been often observed, that the fringed edge of the *corpus fimbriatum* of one of the tubes was fixed to the *ovarium*, with which, by that means, the tube cohered, and was rendered incapable of receiving the fecundated egg that fell from the *ovaria*, at some place where it was not brought close to them.

"8. Lastly; it sometimes happens that the opening of the tubes into the *uterus* is so exactly closed, as not to be capable of admitting a hog's bristle to be introduced into it, and that often there does not remain the least appearance of it. The same thing happens with respect to the *corpus fimbriatum*, but more rarely. This state is not followed by any disorder of the functions, when it happens only at one tube; but if both are affected, it causes an incurable barrenness."—*Diseases of Women*, vol. ii. p. 239.

"The fallopian tubes are frequently found to have suffered from inflammation; and besides those morbid appearances resulting therefrom, which have been enumerated as occurring to the peritoneum, the following have also been noticed:—

"1. A thickened, enlarged, and somewhat indurated state, with the fimbriæ destroyed, and the tube terminated by a 'cul de sac.'

"2. A considerable enlargement of the tube, which has become tortuous, and fluctuating when pressed; and which contains a quantity of serous fluid. In some cases it is an albuminous or puriform fluid, and the membranous sides are in these instances very much thickened; the internal surface is covered with a tenacious or floccy albuminous substance, the removal of which exposes an inflamed and somewhat softened surface.

"3. The fimbriæ preternaturally florid, and loaded with vessels filled with blood.

"4. A total destruction of the fimbriæ, without any other morbid appearance."—*Hooper's Morbid Anatomy of the Human Uterus*, p. 3.

* After speaking of the leading affections of these tubes, Dr. R. Lee remarks: "All these affections produce barrenness; but there are no symptoms by which we can positively know their existence during life."—*Cyc. of Pract. Med.* vol. iv. p. 577.

going on in them are only discovered after death. Very few of these disorders happen before the occurrence of utero-gestation.

In consequence of this obscurity in diagnosis, little more can be attempted than to give a catalogue of the diseases, with such practical observations as may be necessary. It is worthy of remark, that the appropriate treatment of this class of disorders does not depend upon our distinguishing them from affections of the uterus or ovaries. In each the remedies are nearly the same.

334. The fallopian tubes may be attacked by *acute inflammation*, generally by an extension of that disease from the uterus or peritoneum, in one or other variety of puerperal, but sometimes as an idiopathic affection, in consequence of suppressed catamenia or lochia.*

The following case, from Boivin and Dugès, is very instructive: "Madle. B., aged 23 years of age, had been 'regular' from her fourteenth to her twentieth year, when she was attacked several times with inflammation of the lower part of the abdomen, which was removed by leeches. Sharp and frequent pains continued, however, in the hips on each side, particularly in the region of the sacrum; there was also habitual constipation. This state of things was succeeded by irritation of the thorax, accompanied with heat, hoarseness, and frequent cough; the catamenia became less abundant, and irregular in their return; the affection proceeded very rapidly, and the patient died in six months."

Post-mortem examination.—There were adhesions between the uterus and rectum, and also tubercles in the uterine parietes. "The right fallopian tube was of a bright red color, obliterated at its two extremities, the fimbriæ of its pavilion entirely effaced; it contained a viscid, reddish, and puriform fluid. The right ovarium was adherent to the tube, by newly formed membranes; it was small, soft, opening in different directions, and presented a fleshy tissue, of a bright red color, uniform, and without the slightest vesicles. On the same side appeared, in the form of the corolla of a convolvulus, the remains of a red solid cyst, which opened into the cavity of the abdomen, and was probably of the size of a walnut. The left ovarium, twice as large as the other, was covered by the right fallopian tube, which was as large as a hen's egg, and of a deep red color. These organs adhered together by a close and solid membrane. The fallopian tube, when dissected, presented a cyst without orifice, containing a spoonful of yellow, inodorous fluid, of less consistency than that of the opposite side. The parietes of the cyst, flattened, elastic, of a red and fibrous tissue, presented interiorly a cellular reddish membrane, which was easily removed by scraping the surface."†

* Davis's Obstetric Medicine, vol. ii. p. 760.

† Diseases of the Uterus, &c. p. 504.

335. The *symptoms* are deep-seated, throbbing pain in the hypogastrium or iliac region, extending to the groins, and down the thighs. There is a sense of heat in the part, with increasing abdominal tenderness. The tongue is dry, the pulse is quick and hard, and there is some thirst. There is said to be swelling, and this is the principal ground of *diagnosis* from ovarian disease.

A *post-mortem* examination* will exhibit one or both of the tubes swollen, red, and vascular, infiltrated more or less with serum, lymph, or pus. The fimbriæ especially are the seat of these changes, and become of a deep red color, and softened.

The lining membrane sometimes shows marks of inflammation. "A purulent, viscous, whitish, and partly mucous, sometimes blackish or putrid matter, is occasionally found in small quantities in the interior of the tubes, and, it has been said, within their veins.† Purulent deposits may be seated in their parietes, especially in the sub-peritoneal cellular tissue, which is sometimes infiltrated with serous matter, like the fimbriæ of the pavilion. Albuminous flakes have frequently been found adhering to their surface."‡ "The disease may prove fatal on the fourth or fifth day, terminating by resolution from the eighth to the eleventh, or by suppuration from the twelfth to the fourteenth."§

The *indications* of *treatment* are just the same as in metritis. We must attack the inflammation by general and local blood-letting. In some cases, the repeated application of leeches may be sufficient.

After this, counter-irritation may be tried, at the same time that we may prescribe calomel, alone or with opium, very liberally.

336. *Chronic inflammation* of the fallopian tubes. We cannot doubt the occurrence of this disorder, if we examine carefully the tubes in elderly persons; for we shall often discover changes which could result from nothing else. In addition, it is recognizable during life rather by its consequences than by its *symptoms*, which are very obscure, amounting in many cases to no more than a dull pain in the iliac region, with intervals of perfect ease.

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* Cruveilhier, Anat. Path. livr. xiii. pl. 3.

† Danyau, Thèse sur la Metrite gangreneuse, pl. 14.

‡ Boivin and Dugès, Diseases of the Uterus, &c. p. 503.

"After parturition, when inflammation attacks the peritoneum, the fallopian tubes in most cases become red, vascular, and partially or completely bedded in pus or lymph. Their ovarian extremities not unfrequently become softened, of a deep red color; and deposits of pus, in a diffused or circumscribed form, take place within their cavities, or in their sub-peritoneal tissues. Their lining membrane also becomes inflamed, and the canals throughout their whole extent filled with pus."—*Lee, Cyclop. of Pract. Med.* vol. iv. p. 377.

§ Nauche, Mal. prop. aux Femmes, vol. i. p. 371.

The internal membrane alone may be the seat of chronic inflammation, and to this source Boivin and Dugès* are disposed to attribute the discharge in many cases of supposed leucorrhœa, whether uterine or vaginal.

Certain deposits are also traced to the same cause. "It is undoubtedly to affections of this kind that we ought to refer the *melanotic* and *tuberculous* diseases; or the deposits of these, sometimes observed either in the tissue itself of the fallopian tube, or at its anterior surface."†

Both acute and chronic inflammation may issue in the formation of pus, and the abscess may open into the peritoneum, or escape externally. M. Andral‡ has related a case of the latter kind. "The patient had been affected with constipation, then vomitings, and pains, at first in the right side, and afterwards in the left, of the abdomen, and in the right thigh. A tumor was gradually formed in the left side, accompanied with fever, emaciation, purulent diarrhœa, and death. On examination, there were traces of peritonitis and of enteritis. The left fallopian tube, considerably dilated by the pus, though still tortuous in part, and therefore distinguishable, opened into the rectum by an orifice capable of admitting only a quill; the corresponding ovarium, as large as a nut, also contained pus, without communication with that of the tube. The right tube was also enlarged, and contained some purulent matter; the ovarium, situated entirely within the pelvis, was of the size of a large hen's egg, and also filled with greenish, viscid pus: the uterus was healthy."

This case illustrates the symptoms as well as the termination of an inflammatory attack.§

337 The exact *diagnosis* is very difficult. We must be content with the conviction that some of the pelvic viscera are affected, and direct our *treatment* to the relief of the prominent symptoms. Of this treatment, counter-irritation, with calomel and opium, will form the principal feature prior to the formation of matter.

Pus in the fallopian tubes may, however, be derived from another source, "as in the case recorded by Laumonier,‖ inasmuch as the ovarium was partly excavated, and concurred with the fallopian tube in the formation of an enormous abscess." Similar cases have occurred to Boivin and Dugès.

338. There is a consequence of inflammation, either acute or chronic, which has not yet been noticed, viz. the *obliteration of the*

* Diseases of the Uterus, &c. p. 502.
† Ibid. p. 502.
‡ Anatomie-Pathologique, tom. ii. p. 700.
§ See also Davis, Obstetric Medicine, vol. i. p. 760.
‖ Mem. de la Societé Roy. de Med. 1782. p. 299.

canal through the fallopian tubes. This may occur at the uterine or ovarian extremity: when the latter is the case, the fimbriæ are found adhering to the ovarium. "*According to M. Andral* obliteration may occur about the middle; even the entire tube may lose its cavity: this, however, is not a very common case, and the obliteration is generally only partial; and then there is an accumulation, in the remaining cavity, of sero-mucous matter, which may become more or less abundant.*

Dr. Hooper says, "Their fimbriated extremities are frequently, in consequence of acute or chronic inflammation, firmly united to the ovaria, posterior part of the uterus, omentum, and other contiguous parts. The structure of the fimbriæ is often completely destroyed, and the tubes terminate in a 'cul de sac.' The canals of the tubes are also sometimes obstructed, and sterility is the result. The obstruction may be partial or complete. One of the most frequent morbid appearances which the writer has observed, in the bodies of young subjects after death, is adhesion of the fallopian tubes to the ovaria, by short, firm, adventitious membranes, or by long, slender, transparent filaments."†

"When the fimbriæ of the fallopian tubes are destroyed, the opening from the tube into the cavity of the abdomen is generally obliterated, the tube is enlarged toward the abdominal extremity, and the canal terminates in a cul de sac. The tubes, in these instances, are found increased in size, and are mostly tortuous, or of a pyriform shape; their sides are thicker, and traces of pre-existing inflammation are mostly detected. This is a diseased state of frequent occurrence."‡

The obliteration of either or both extremities may give rise to accumulations of fluid, derived either from the uterus, from the ovaries, or from the lining membrane.§

"The fallopian tube has been sometimes, indeed, the seat and source of a sanguineous exudation, without apparent rupture. This has been principally observed in the puerperal state, in abortion, or connected with metro-peritonitis. The following is a case in point: —A woman, after a recent abortion at an early period, was affected with inflammation of the uterus and of the peritoneum, of which she died. The ovarian extremity of the left fallopian tube was of the size of a small hen's egg, adhering to the ovarium, which it almost surrounded; it was red, very vascular, and contained some fluid blood: the parietes of this sac were half a line in thickness; the left fallopian tube was obliterated at its pavilion, which was as large as the finger, without fimbriæ, and adhering to the ovarium by some cellular adhe-

* Dr. Robert Lee, Cyclop. of Pract. Med. vol. iv. p. 377.

† Morbid Anatomy of the Human Uterus, p. 34.

‡ Boivin and Dugès, Diseases of the Uterus, &c. p. 500.

§ "Proper dropsy of these tissues consists in deposits of a watery

sions: some fluid blood was found within it; the remains of a small lacerated serous cyst were suspended from the ovarium on the same side."*

We meet with examples of the first occasionally, when the neck of the uterus is imperforate; the catamenial discharge accumulating, distends first the uterus, then the fallopian tubes, and ends by rupturing them.

In the second case, a communication is opened between the adherent extremity and the dropsical cyst of the ovary.

In the latter case, the appearance of the tube varies:† "sometimes it is thickened, elongated, and flexuous, gradually enlarging as it approaches the ovarium, though still quite distinguishable. Sometimes it enlarges more rapidly, in the form of a cucurbite, of a pear, or of a sphere, and may then acquire enormous dimensions. De Haen speaks of a hypertrophied fallopian tube, which weighed alone seven pounds, and contained twenty-three pints of fluid:‡ cases have been quoted, in which even a hundred and twelve pints have been found in these organs; but the fallopian tube, the ovarium, and the broad ligaments, were all blended in the cyst. The rationale of these accumulations of fluid; and of these there are at least three varieties, viz.: 1. Those in which the fluid effused is contained within hydatids attached, but not adherent to, nor forming essentially part of the tubes themselves. 2. Those in which it is contained intermediately between the peritoneal tumor and the tube. And 3. Those in which it is found effused into the cavity of the tube, and there retained by both its extremities being hermetically closed by disease."—*Davis, Obstetric Medicine*, vol. ii. p. 761.

* Boivin and Duges, p. 500.

† "The tubes are also, though much more rarely, the seat of dropsy. The signs of this disease are the same as in dropsy of the ovary, from which it is distinguishable during life. On examination after death, the tube which is the seat of the dropsy is found more or less dilated; it presents the appearance of a tortuous tumor, something resembling the large intestines. The cavity is filled with a serous fluid, slightly coagulable, and of an albuminous character. This cavity is generally divided into cells by membranous septa."—*Nauche, Mal. prop. aux Femmes*, vol. i. p. 181.

"Sometimes the fallopian tube is suddenly enlarged by fluid at the ovarian extremity, when it resembles a horn, or has a pyriform or spherical shape, and it may there acquire enormous dimensions. De Haen relates a case in which the fallopian tube weighed seven pounds, and the cavity contained twenty-three pounds of fluid. In other cases, the quantity has been still greater."—*Lee, Cyclop. of Pract. Med.* vol. i. p. 378.

‡ Rat. Med. tom. iii. p. 213. See also Monro on Dropsies.

fluid, and of dropsy of the ovarium, is the same: their symptoms are also similar; they are sometimes equally relieved by puncture; sometimes this operation has been followed by fatal consequences, and sometimes it has been entirely useless, owing to the viscous state of the matter preventing its flow along the canula."*

Dr. Hooper has given the name of 'hygroma' to this fluid collection, and he observes:† "I have never seen more than seven fluid ounces in one tube: from one to two ounces is the more usual quantity. When a hygromatous tumor is formed in these tubes, the fimbriæ are generally destroyed, and the abdominal openings obliterated. The sides of the tubes are distended into complete bags, which have a long, tortuous, or pyriform shape, being always much the largest at the loose extremity. The tube of both sides is mostly in the same state of disease, and there are generally traces of pre-existing inflammation, as thickened portions here and there, and many adventitious membranes and adhesions to neighbouring parts.'

In some cases, where the uterine extremity becomes pervious, the fluid is more or less completely discharged through the uterus and vagina. Frank‡ mentions a case, in which a pint of fluid was discharged *per diem*. After the death of the patient, thirty-one pints of aqueous and gelatinous matter were found in the left fallopian tube. The cause of the disease was a fall, in which the hypogastrium was hurt.

Dr. Tyler Smith has recently proposed an instrument for detecting and remedying obstructions of the fallopian tubes, whether the result of inspissated secretion or thickened lining membrane.§ The instrument consists of a hollow tube or catheter, in shape resembling Prof. Simpson's uterine sound, with the addition of a short lateral curve at the point, turning to the right or left, according as it is for the right or left fallopian tube. The catheter is to be passed through the cervix to the top of the uterine cavity, and then the orifice at its curved extremity will, Dr. Smith says, correspond as nearly as possible with the orifice of the fallopian tube. Having proceeded thus far, a very fine whalebone probe is to be passed through the catheter into the fallopian tube, the distance to be ascertained by marks upon the outer extremity of the probe. Dr. Smith says there is no difficulty in passing the probe, although the introduction of the catheter is not

* Boivin and Dugès, Diseases of the Uterus, p. 501.

Astruc speaks rather favorably of tapping the dropsical tube, and quotes a case of J. H. Bretchfeld's, related by Bartolinus (Act. Med. Hafnien. p. 194), in which it was successfully performed.—*Diseases of Women*, vol. ii. p. 244.

† Morbid Anat. of the Human Uterus, p. 19.

‡ De Cur. Ret. lib. vi. part 1, p. 310.

§ Lancet, May 19, and June 9, 1849.

always easy; and, after several trials, he has never seen any ill effects from the operation.

I confess I should be unwilling, without much additional evidence to recommend this operation; I do not think the uterus so insensible to mechanical irritation as some suppose; and I should fear that if the probe be weak it would be useless, and if strong there would be great danger of injury.

Obliteration of the tube in any part will prevent subsequent conception, rendering the woman sterile; and if the calibre of the tube be diminished or obliterated after conception, or if the action of the tube be imperfect, then the ovum may be arrested in its progress towards the uterus, and an extra-uterine (tubal) gestation will result. Under these circumstances, the fœtus may increase in size for some time, until, having stretched the parietes of the tube to their utmost extent, they give way, and the fœtus is precipitated into the abdomen. In most cases, this gives rise to fatal peritonitis; in a few others, the serous membrane accommodates itself to the presence of the fœtus, and the patient may carry it thus for many years.

Astruc* recommends the operation of the Cæsarian section in such cases, if we are sure of their nature.

339. It is very rare indeed that *fibrous tumors* form in the substance of the fallopian tubes. They are, however, sometimes met with. Dr. Baillie† remarks: "I have seen a hard, round tumor growing from the outer surface of one of the fallopian tubes. This, when cut into, exhibited precisely the same appearance of structure as the tubercle which grows from the surface of the uterus, consisting of a hard white substance, intersected by strong membranous septa. This, however, I believe to be a very rare appearance of the disease."

And Dr. Hooper‡ observes: "A more common situation for this tumor is the cavity of the fallopian tube. It is occasionally seen, very small, deposited in the cellular tissue, under the peritoneum of the tubes; and I once found it in the cavity or canal itself, about the size of an olive; the fimbriæ were destroyed, and the tube terminated in a *cul de sac*."

340. The fallopian tubes may be attacked by *malignant disease*. Capuron,§ Nauche,‖ and others treat of cancer of this part; and Dr. Lee observes:¶ "The fallopian tubes are sometimes affected with can-

* Diseases of Women, vol. ii. p. 245.
† Morbid Anatomy, p. 360.
‡ Morbid Anatomy of the Human Uterus, p. 12.
§ Mal. des Femmes, p. 164.
‖ Mal. propre aux Femmes, p. 623.
¶ Cyclopedia of Pract. Med. vol. iv. p. 379.

cerous or malignant disease. This may commence in the tubes themselves, or it may extend to them from the ovaria, or other parts of the uterine system."

If the disease have extended to, or originated in the womb, of course the *symptoms* arising from the affection of the fallopian tubes will be merged in those of the uterine disorder. If not, some light may be thrown upon the *diagnosis* by a careful vaginal examination.

341. *Displacements.* As we have seen already,* the fallopian tubes are displaced whenever the position of the uterus is disturbed. In prolapsus uteri, they lie in the 'cul de sac' formed by the inverted vagina, along with the ovaries. In inversion of the womb, they are drawn into the newly formed cavity, lined by the peritoneum of the fundus uteri.

When the ovary is much enlarged, if the fimbriated extremity of the tube be adherent to it, the situation of the tube itself will be altered.

In those very rare affections, herniæ of the uterus and ovaries,† the fallopian tubes of course participate in the displacement.

342. *Ruptures.* This accident may occur from over distension by the catamenia,‡ by serum, or by pus. It may occur independently both of these diseased states and pregnancy. There is a case on record of rupture of this organ, independently of pregnancy;§ attributed to a violent effort, quickly followed by an effusion into the abdomen, and death. Or the rupture may be the immediate consequence of ulceration.

Rupture of the tube, in consequence of the development of the fœtus in its canal, has already been noticed. It generally takes place about the third or fourth month of pregnancy. When it occurs, "a violent pain is suddenly experienced by the woman in the region of the uterus; this is followed by faintness, coldness of the extremities, and other symptoms of internal hemorrhage; and death usually takes place in a few hours. On opening the body, a quantity of blood is found in the sac of the peritoneum, and the tube which contained the ovum is found lacerated or laid open by inflammation and sloughing. When ruptured, it does not possess a power like the uterus, to close the exposed vessels after the separation of the placen-

* See Prolapse and Inversion of the Uterus.

† See Nauche, Mal. propre aux Femmes, vol. i. pp. 123, 127. Boivin and Dugès, Diseases of the Uterus, &c. chap. 5. Ruysch, Obs. 16.

‡ De Haen, Rat. Med. tom. iii. p. 32.

§ Nouvelle Biblioth. Med. 1823, tom. i. p. 263.

ta, and the blood is poured out from the laceration until the woman perishes."*

This accident is almost always fatal. If there be time for remedies, of course the most active antiphlogistic treatment is the most appropriate; such, in fact, as would be prescribed for peritonitis under ordinary circumstances.

* Lee, Cyclop. of Pract. Med. vol. iv. p. 373. Edin. Med. and Surg. Journal, vol. xix. p. 652.

SECTION IV.—DISEASES OF THE OVARIES.

343. Notwithstanding the peculiarities of their structure, and the difference between them and the uterus, the ovaries seem to be obnoxious to the same attacks, and to undergo similar morbid changes.

They may suffer from inflammation, acute or chronic; and from its *consequences*, fluid or solid deposits: from malignant disease, from displacement, and from rupture.

It is true that the diseases of the ovary are less frequent than those of the uterus; and one reason for this is, that their physiological changes are of a character less likely to lead to disordered action: they are not exposed to irritation from acrid discharges; and far less to mechanical injury, especially to that which results from excessive sensuality.

It is not intended, therefore, to enter into minute detail upon the rarer forms of ovarian disease.

CHAPTER I.

INFLAMMATION OF THE OVARIES. OVARITIS.*

344. Inflammation of one or both ovaria does occur sometimes as an idiopathic lesion, and unconnected with pregnancy, but it is very rare. It is most generally complicated with the peritoneal or uterine inflammation succeeding to abortion or delivery.

"Inflammation of these organs has also been known to exist, independently of any similar condition of the uterus itself. M. Portal asserts that he had often met with patients of this class, who had experienced all the pathognomonic symptoms of inflammation of the

* Davis, Obstetric Med. vol. ii. p. 762. Dewees, Diseases of Females, p. 255. Manning, Diseases of Women, p. 286. Astruc, Diseases of Females, vol. ii. p. 229.

uterus, but who, after the lapse of some time, and subsequently to their apparent recovery, became the subjects of fulness, and in fact of very great intumescence in one or both iliac regions, for which they took various remedies without advantage. On inspecting the bodies of such persons after death, he found the uterus perfectly healthy, whilst the ovary of one side, and in other cases of both sides, together with the ligament or ligaments, round and broad, of either or of both sides, presented the appearance of great engorgement."*

Generally speaking, the entire substance of the ovary is involved in the morbid action; but in some few cases it has been supposed to have affected only the Graafian vesicles. The phenomena which result in this latter case are not distinguishable during the life of the patient, and consequently this partial affection may be passed over without more lengthened detail.

On this subject Dr. Seymour remarks: "Whether the Graafian vesicles are ever affected by inflammation, except when in common with the substance of the ovarium, it would be impossible to determine, except by a long-continued and very accurate examination after death. We meet, indeed, in authors, with accounts of the ovarium, which has been inflamed, having purulent matter of a healthy character contained in cysts; but no allusion is made, to whether this arises from inflammation or suppuration of the vesicles, or is a circumscribed abscess in the cellular structure. The coats of the vesicle, however, in advanced life, undergo remarkable thickening; instead of containing fluid, are filled with a thick matter, of a red color, from the presence of vessels, sometimes nearly solid, at others of a thinner consistence. This change exhibits, on a small scale, some of those hard tumors which are sometimes found in the parietes of an ovarian cyst. Is it not possible that these may be some of the superficial vesicles, having undergone the change alluded to, and magnified by disease?" "The fluid which is contained in the Graafian vessels is liable to disease; it is often red, and even black, from the admixture of blood; and it appears to me that it may become altered from imperfect fecundation." Dr. Seymour quotes a case in support of this latter opinion.†

It has been stated by Nauche, that young women of a sanguine temperament and vivid passions are the most obnoxious to this affection. I should doubt the general applicability of this remark, at least to such cases as occur during an epidemic of puerperal fever. There are two epochs at which it frequently occurs, viz. just previous to, during, and immediately after the appearance of the menses, and shortly after abortion and labor.

There is an *acute* and *chronic* form of the disease. The latter is

* Davis, Obstetric Medicine, vol. ii. p. 762.

† Illustration of Diseases of the Ovaria, p. 41, et seq.

always a [illegible] of the former, and differs from it chiefly in the minor [illegible] of the symptoms.

345. *Causes.*—When the disease occurs in puerperal women, it is often merely an extension of inflammation from the uterus or broad ligaments. Certain epidemics of puerperal fever also appear to be characterised by the prevalence of this lesion. "The frequency with which this affection is complicated with metro-peritonitis in the puerperal state, varies considerably in the different epidemics. Of 686 cases of metro-peritonitis, which we witnessed in two years (1819-20), 37 presented inflammation of the ovarium. There were, doubtless, many more of the same kind, and several escaped our detection, owing to the obscurity of the diagnosis; for, of this number, 35 were ascertained after death, and only two during life. In such cases, inflammation of the ovarium can only be suspected from the existence of pain extending towards the iliac fossæ, to the loins and femora; and from tenderness felt near these fossæ; and, perhaps, from rather more tumefaction and hardness in the iliac regions than is found in simple metro-peritonitis."*

It occasionally follows a difficult or tedious labor.

It may arise, however, altogether independent of gestation; and it has been referred, in some cases, to a blow received in the iliac region, to cold, or to irritation from some foreign body (as hair, teeth, &c.) in the ovary itself.

According to Dr. Martin Solon, it may follow suddenly suppressed menstruation.†

346. *Symptoms.*—1. *Of acute ovaritis.* When complicated with inflammation of the uterus or its appendages, the symptoms thence arising will in some degree mask those dependant on the ovarian affection. But in all cases, the patient suffers from deep-seated, severe pain in the pelvic cavity; and when the disease is limited to the organ itself, the situation of this pain, which is accompanied with a sensation of burning, is very well marked.‡

It is not constant if the patient continue quiet; but if she rise, it is greatly aggravated. If the inflammation spread to the peritoneum, the pain changes its character, and becomes very acute. An aching sensation extends to the groins and thighs, with great weariness. The evacuation of urine and fæces is performed with pain and difficulty.

"As long as the inflammation is confined to the ovarium itself, the seat of the disease can only be shown by the pain, since there is no functional disturbance to mark its presence. Immediately over the symphysis pubis of the affected side (both ovaries are seldom inflamed

* Boivin and Dugès, Diseases of the Uterus, &c. 488.

† Nouv. Dict. de Med. et de Chir. prat.; art Ovarite.

‡ Astruc, Diseases of Women, vol. ii. p. 238.

at once), between the groin and the uterus, the abdomen is painful and somewhat tense; at times it is distinctly swollen, and hotter than natural. The pain is seldom violent, rather dull, but becomes sharper and darting as soon as the peritoneum is involved: the part is painful on pressure, and on suddenly assuming the erect posture; and as long as the inflammation does not spread, remains confined to the affected spot.

"Usually, however, the inflammatory process rapidly extends, at an early period, to the peritoneum; especially when under circumstances which predispose the membrane to inflammation, viz. the puerperal state; and besides the darting pain above mentioned, produces affections either of the bladder or rectum. In the former case, patients complain of frequent desire to pass water, and scalding, even to a painful degree, when evacuating the bladder, so as to be easily mistaken for inflammation of its mucous lining; the neighbourhood of the bladder is felt tense, and is very tender on pressure. The urine also is mostly high-colored, and is passed in the usual quantity, in spite of frequent interruptions. The function of the rectum is but little impeded. On the other hand, when the irritation has spread to the posterior portion of the peritoneum, the characters of the disease are very different: the bladder now is less affected than the rectum. In this case, the patient has a sensation of painful pressure in the cavity of the pelvis, amounting to bearing down; the hypogastric region is not so tense or hot, and is less sensitive to external pressure. Fruitless forcing to evacuate the bowels arises, frequently amounting to tenesmus."*

If we examine the lower part of the abdomen on either side, or on both (for the attack is not always limited to one ovary), we may often perceive a slight puffiness or swelling,† and upon pressure, this part will be found very painful.

This tenderness will spread over the whole abdomen, if the peritoneum be involved.

There is always more or less fever present, the skin is hot, the pulse quick and concentrated; the stomach becomes disordered; nausea and vomiting occur.

An examination *per vaginam* is not satisfactory. There is sometimes a slight increase of heat, but no sign which could indicate the true nature of the affection. As far as I know, we are indebted to Dr. Löwenhardt for first pointing out to the profession the importance and accuracy of the information obtained 'per rectum.' "Without the aid of examination 'per rectum,' it would be exceedingly difficult

* Diagnostisch-praktische Abhandlungen aus dem Gebiete der Medicin und Chirurgie durch Krankheitsfälle erläutert vom Dr. Lowenhardt, Part I. p. 306. British and Foreign Medical Review, vol. ii. p. 527.

† Nauche, Mal. prop. aux Femmes, vol. i. p. 370.

to form a certain diagnosis: the finger, 'per anum,' easily reaches to the side of the uterus, *where the swollen and generally painful ovary may be distinctly felt.* Examination 'per vaginam' leads to little or no certain results. We have, it is true, a number of indistinctly marked symptoms, which show that inflammatory action is going on. The vagina is warmer than natural: the os and cervix uteri are neither painful or swollen at the beginning of the disease. In some cases there is a slight degree of tumefaction of this part, such as is observed shortly after conception."* The finger easily reaches to the natural situation of the ovary at the side of the uterus, and is able to appreciate the increase of bulk, and to ascertain any tenderness on pressure.†

Organic disease of the ovaries must always, more or less, interfere with the uterine functions. The lochia will be checked, and the menses suppressed by it. If the disease involve the substance of both ovaries, the power of conception (at least, *pro tempore*) will be destroyed, and sterility will be the result.

An opinion was broached some time ago, by Professor Carus of Dresden, and adopted by many continental writers, as to the connexion of nymphomania with ovaritis. That the two affections may co-exist cannot be denied; but that the nymphomania is to be always referred to an inflamed condition of these organs, or that ovaritis must

* Brit. and For. Med. Review, vol. ii. p. 527.

† The following case (abridged from Lowenhardt) very well illustrates the series of symptoms presented by this disease:—

"Mrs. S——, æt. 40 years, of middling stature, delicate figure, and florid complexion, mother of several children (the youngest of which is eight years of age), having hitherto enjoyed good health, was attacked on March 12, 1829, with pains in the abdomen, when the catamenial period was just over, in consequence, as she supposed, of catching cold: these pains increased considerably the following day, and compelled her to keep in bed. She complained of a *continued throbbing pain on the right side of the abdomen, in the ovarian region, and a violent desire to pass water, accompanied with much painful scalding: the urine red and clear.* On closer examination, the abdomen appeared nowhere enlarged or tender, *except in the above mentioned spot; which was somewhat swollen, and pressure here increased the pain considerably.* The vagina was hot, but not painful; neither was the rectum; but *upon examination with the finger through this passage, the ovary of the right side of the uterus was found swollen and painful.* There was general constitutional suffering; the patient was feverish, with thirst, flushed cheeks, suffused eyes, a white dry tongue, pain of head, pulse quick, but neither full nor hard. She was put on a strict antiphlogistic treatment, and recovered in the course of a few days."

The patient experienced a similar, but more severe attack, in the

necessarily be attended by nymphomania, is contrary to the evidence of experience.

On this subject, the reviewer of Lowenhardt remarks: "We have never yet seen a case (of nymphomania) arising from this cause, whereas we have frequently witnessed cases of considerable venereal excitement arising from an inflamed condition of the vagina and external parts. On the other hand, inflammation of the ovary decidedly occurs, not only without the slightest approach to nymphomania, but is frequently attended by a directly opposite state of feeling on the part of the patient."

The result of *post-mortem* examinations vary according to the intensity of the disease.

"The disease may prove fatal on the fourth or fifth day; by resolution from the 9th to the 11th; or by suppuration from the 12th to the 14th. In the latter case, the pus is inclosed in a cyst which often projects so that it can be opened externally. Occasionally the cyst contracts adhesions to a portion of the intestinal canal, and, opening through the parietes, the pus is discharged by stool. The cyst may also open into the cavity of the abdomen, and occasion immediate death. Sometimes the inflammation terminates in induration."*

"On opening the bodies of females who have fallen victims to this disease, the organs which are the seat of disease are found increased in volume, of a reddish brown; their texture similar in color, and softened, with here and there small collections of puriform matter, which is occasionally found even in the Graafian vesicles. The observations of M. Dance (on Phlebitis, in Archiv. Gen. for Dec 1828), have demonstrated this. M. Portal and others cite examples of cysts of a considerable size, filled with purulent matter developed in the ovaries. Most generally they are covered by false membranes, and serious morbid changes are observable in the neighbouring organs."†

"In the first degree, the ovary presents hardly any increase in volume,‡ especially in length, and is rather softer than in the natural

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following year, presenting the same signs and symptoms, and amenable to similar antiphlogistic treatment.—*See Brit. and For. Med. Rev* vol. ii. p. 528.

* Nauche, Mal. prop. aux Femmes, vol. i. p. 372.

† M. Solon, Nouveau Dict. de Med. et Chirurg. Prat.; art Ovarite.

‡ "In forming a judgment of the natural size, it must be recollected that the ovaries always enlarge, and are softer during pregnancy; and that they are full twice their natural size in the latter months of uterro-gestation, and for some time after delivery."—*Hooper's Morbid Anatomy of the Human Uterus*, p. 6, *note.*

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state; its substance is firm, red, and injected; numerous capillaries traverse it in every direction; the vesicles are larger than in their natural condition. In the second degree, there is enlargement to twice or four times its usual dimensions, a volume exceeding that of a hen's egg; a rounded or oval, flattened form; softness, friability; serous infiltration of a yellowish color; or a livid color, with the same infiltration; sometimes with slight effusions of blood in numerous points. In the third degree, there is infiltration of fluid or concrete pus, deposited in small quantities in this softened mass, which is then pale and yellowish. In the fourth degree, there is softening, with liquidity at the centre; sometimes even a solution of a part of the entire ovarium, the shreds of which are carried along with the pus, and mingled in the peritoneal effusion."*

347. *Chronic inflammation* of the ovaria is always a sequence of the acute form, and presents a similar but more obscure series of symptoms.† There is a deep-seated, dull pain in the region of the ovaries, occasionally aggravated by moving about, and by the evacuation of urine and fæces. There is occasionally a slight diarrhœa, with sweating.

The constitutional symptoms are generally absent, but the organic changes are equally ascertainable by an examination 'per rectum.' The catamenia are suppressed. Both species terminate alike.

348. *Diagnosis.*—If we depend upon the symptoms alone, the diagnosis will often be very doubtful and obscure. Of thirty-seven fatal cases, Madame Boivin only detected two during the life of the patients. This is especially the case in puerperal fever, where all the symptoms are sure to be referred to the uterus or peritoneum.

An examination 'per rectum' is the safest ground of distinction between *ovaritis* and *hysteritis*, *cystitis* or *peritonitis*, because in no other affection is the ovary necessarily enlarged.

There is still a difficulty, even if we have proceeded so far satisfactorily; for inflammation and abscess of the softer parts, lining the pelvis, will be in some danger of being mistaken for an ovarian affection, or *vicê versâ*.

Perhaps the union of a careful vaginal and rectal examination would be the surest ground for diagnosis; and in some cases (puerperal fever, for instance,) the history of the patient will throw light on the disease.

349. *Prognosis.*‡—From the obscurity of the symptoms, and the anatomical relations of these organs, inflammation and its results

* Boivin and Dugès, Diseases of the Uterus, &c. p. 489.

† Siebold's Journal, vol. xvi. p. 404.

‡ "With regard to the *prognosis*, all the diseases of the ovaria are bad. If they could be distinguished early, there are some that might perhaps be cured. But by the time any ground of doubt is furnished, the disorder is already confirmed, and becomes almost always incurable."—*Astruc.*

are so serious, that the prognosis is always grave. If the symptoms be detected early, the prospects of the patient will be much more promising.

350. *Terminations.*—1. It has already been stated, that the *acute* form of ovaritis may issue in the *chronic*. Both of these may terminate in *resolution*, which will be evidenced by the gradual subsidence of the local and general symptoms, by the eruption of the menses, or by the return or increase of the lochia, if the patient be in childbed.

2. The inflammation may spread to the *broad ligaments* and the *peritoneum* generally. This is not unfrequent, and is marked by the accession of a more acute and constant pain, and of more general and intense abdominal tenderness. It is scarcely necessary to mention, that this complication compromises the safety of the patient.

3. Chronic inflammation may give rise to a degree of *swelling* and *induration*, which may persist, without much inconvenience, for a considerable time.

"Chronic inflammation of the substance of the ovarium terminates likewise, as in other viscera of the body, by thickening and enlargement of the part. Such cases, after the commencement of the disease, will often remain stationary, and without any inconvenience, for many years." Dr. Seymour relates an example of this kind.*

4. In other cases, and especially after an acute attack, the substance of the ovary becomes *softened*, and reduced to the consistence of pulp. "Softening also takes place as the result of acute inflammation of these parts. A case recently occurred under my observation, where death, from inflammation of the womb, occurred about three days after delivery. The whole of the cellular membrane under the peritoneal covering of the uterus, and under that lining the pelvis, was in a state of diffuse suppuration; and the absorbent vessels, loaded with pus, could be traced nearly as high as the diaphragm. The ovaria were in a state of extreme softness, presenting the appearance of a vascular pulp, but no purulent matter was visible."† This is a very serious termination, as regards the functional integrity of the organ.

5. The *formation of matter* is a frequent termination of both acute and chronic ovaritis.‡ After the acute form, the pus is generally more diffused throughout the substance.§

"Abscess is sometimes, indeed, only the result of inflammation induced in a steatomatous cyst, as in dropsy of the ovarium. There are cases in which these two diseases constitute but one mixed affection, whatever may have been its original character, in consequence

* Seymour on Diseases of the Ovaries, p. 40.

† *Ibid.* p. 38.

‡ Ed. Med. and Surg. Journ. vol. xvi. p. 367.

§ Cruveilhier, Anat. Path. livr. 13.

of the inflamed dropsical cyst being thickened, and its contents being almost entirely changed into pus; or from a real abscess having gradually increased, and transformed the ovarium into a cyst."*

"The ovaria, like the substance of the uterus, seldom furnish any trace of inflammation having existed in their substance, unless dropsy and some other organic diseases be so considered. I have met with only two instances of Abscess: the one was the size of a child's head at birth; the other not larger than an orange. There was in these nothing different from common abscess. The whole of the internal substance of the ovaries was gone, and the walls were formed of a thick and rather ligamentous cyst, covered by the peritoneum."†

"One of the largest abscesses on record is that which M. Andral has quoted from the American Journals: the ovarium contained twenty pints of pus. Portal speaks of suppurated ovaria as large as an infant's head. There is a figure in our Atlas, pl. 34, G. of an encysted abscess, which appears to have been secondary to a kind of dropsy of the ovarium. The same may undoubtedly be said of the case recorded by Vater, in which the ovarium was as large as the human head, and contained pus distributed into several capsules. We might also to refer to suppurated dropsies, those accumulations of twenty, thirty-six, and thirty-nine pints, quoted by Logger, p. 11 and 12."‡

The formation of matter will be indicated by rigors, softness of the pulse, and mitigation of the general symptoms, with an increased sense of weight and throbbing locally. The *symptoms* in a great degree resemble those of dropsy of the ovarium, but "in dropsy there is more evident and uniform fluctuation, more considerable volume, higher ascent into the abdomen, pain and tenderness only at a late period: in inflammation of the ovarium there is partial fluctuation, hardness in several parts, pain and tenderness at the first moments of turgidity, seated in the pelvis or at its circumference. These constitute almost all their distinctive characters."§

The abscess may burst into the peritoneum, and give rise to fatal peritonitis; or if not directly fatal, the inflammation may occasion adhesion between the ovary and some part of the serous membrane, which will prohibit the further escape of matter.

"A young woman, of the lowest and most unfortunate class of females, was a patient in Guy's Hospital, under the care of Dr. Bright, in the autumn of 1823. She was greatly emaciated, had a very quick and feeble pulse, a shining red tongue, and constant watchfulness.

* Boivin and Dugès, Diseases of the Uterus, &c. p. 491.

† Hooper's Morbid Anatomy of the Human Uterus, p. 2. Cooke's case, Med. Gazette, Jan. 17, 1840.

‡ Boivin and Dugès, Diseases of the Uterus, &c. p. 492, note.

§ *Ibid.*

She suffered from constant and irrepressible diarrhœa, and for many successive days vomited both food and medicine: the catamenia were absent. The case made a considerable impression on my mind, from the extreme emaciation and colliquative diarrhœa, without any evident symptom of disease of the lungs or intestinal canal. After having been in the hospital about two months, she suddenly complained of the most acute pain over the abdomen, and in a few hours expired. On opening the abdomen, death appeared to have been produced by the effusion of a large quantity of pus into the peritoneal cavity, which escaped from an abscess in the right ovarium; which abscess appeared to arise from suppuration in the substance of the viscus, similar in every respect to phlegmonous abscess in any part of the body, and not connected with any cyst, or change or addition of structure, the product of morbid growth."*

But more frequently, the matter points at the iliac region, and escapes through the abdominal integuments,† or establishes a communication with the uterus, bladder, or rectum, and thence escapes externally.‡

This happened in the case of the nun who had never menstruated, as was discovered by a post-mortem examination.§

Boivin and Dugès relate similar cases.

Or the tumified ovary may descend lower in the pelvis, so as to be felt as a fluctuating tumor between the vagina and rectum.

It has already been stated, that a communication is sometimes opened into the fallopian tube, and the matter thus discharged into the uterus.

Pus has occasionally been found in the ovarian veins and lymphatics.

6. The disease may terminate in gangrene; but it is very rare, and will not be discovered till after death.

7. "Several of these diseases—as melanosis—may be fairly attributed to exudation of blood into the tissue of the affected parts; to a kind of unabsorbed, though organised ecchymosis, identified with the texture of the organ. There are cases, however, in which more serious

* Seymour on Diseases of the Ovaries, p. 39.

† Denman's Midwifery, p. 476. See also a 'Memoir' on 'ovarite puerperale,' by M. Montault.—Journ. Hebdom. 6 annèe, vol. i. p 413.

‡ Boivin and Dugès, Diseases of the Uterus, &c. p. 427, case 2. Let me direct the attention of the reader to the chapter "On inflammation and abscess of the uterine appendages," among the diseases of child-bed.

§ Mem. Acad. Sc. 1700. Obs. 5.

consequences result from these sanguineous congestions, which are then rapid and violent, sustained by a hemorrhagic effort, and, in short, resembling apoplexy or other hemorrhagy, from the capillaries which constitute the substance itself of the organ."*

8. It cannot be denied that inflammation *may* also have a share in the production of other morbid states—such as serous cysts, hydatid cysts; fibrous, cartilaginous, and osseous tumors; encephaloid, &c.

351. *Treatment.*—1. *Of acute ovaritis.* If the patient be attacked with puerperal fever, the remedies directed against the uterine or peritoneal affection will be equally proper for the ovarian. The most active antiphlogistic treatment will be necessary; venæsection, leeches to the iliac region, to the groins, anus, or labia, should be prescribed, followed by poultices and fomentations to the lower belly, calomel and opium, &c. Emollient vaginal injections, and enemata, will be beneficial: absolute rest and a spare diet must be adopted. A judicious application of these remedies will, in many cases, especially in idiopathic ovaritis, be adequate to the relief of the disease.

We must attentively watch the course of the disease, and be prepared to meet each *complication* appropriately.

If matter be detected in the iliac fossæ or groins, it must be evacuated; but it is desirable that we should wait until adhesions be formed between the ovary and peritoneum: whenever this is the case, an opening is to be made with a bistoury or caustic.† M. Solon thinks the latter preferable, because it tends to determine adhesions, whilst it forms an eschar, which eschar may be punctured in its centre.

If the pouch of matter be felt through the parietes of the vagina, it will not be difficult to penetrate it with a lancet or trocar. In a case related by M. Solon, which occurred in the Hospital Beaujon, absorption of the matter took place just as it was determined to puncture the cyst.‡

Against gangrene we may employ antiseptics and chlorides internally, with blisters and camphorated frictions externally.

2. In the *chronic form*, antiphlogistics are no longer of the same value, and we must have recourse to counter-irritation, by setons, moxas, &c.

Benefit is sometimes derived from frictions with iodine, or from its combinations with mercury.

* Boivin and Dugès, Diseases of the Uterus, p. 487.

† "If fluctuation be perceptible, an opening should be made with a bistoury or a trocar, deep into the abdomen, so as to penetrate the abscess. The pus will then escape externally, and we may hope to cure the patient."—*Nauche, Mal. prop. aux Femmes*, vol. i. p. 373.

‡ Nouv. Dict. de Med. et de Chir. prat.: art. Ovarite.

Small and repeated doses of calomel have been found very useful, with decoction of sarsaparilla.

The general health should be attended to: the diet must be moderate, and gentle exercise may be taken.

Mineral waters have been taken with benefit.

Failing in all these remedies, it has been proposed to cut down upon and extirpate the ovary; but no one has been fool-hardy enough to reduce this suggestion to practice.

CHAPTER II.

ENCYSTED DROPSY OF THE OVARY.*

352. This name is given to a morbid accumulation of fluid in the ovary, contained in one or more cells or cysts.

It is a disease of slow growth. It is not frequent during the first half of female life, though some such instances are on record;‡ but it is by no means uncommon about the cessation of the catamenia. Extreme old age seems to be exempt from it. It appears that those who have borne children are more obnoxious to it than the unmarried, and that it attacks most commonly females of scrofulous habit.

353. *Pathology.*—The disease is considered by most authors as a dropsy of the graafian vesicles; and it is supposed to consist primarily in an inflammatory condition of their lining membrane.†

Dr. Burns objects to the term 'dropsy of the ovarium,' inasmuch as "the affection is not dependant on an increased effusion of a natural serous secretion and exhalation, but is of the nature of what has, perhaps not very properly, been called cystic sarcoma; and consists in a

* Denman's Midwifery, p. 80; Burns' Midwifery, p. 146; Campbell's Midwifery, p. 476; Davis, Obstetric Medicine, vol. ii. p. 768; Blundell, Diseases of Women, p. 104; Capuron, Mal. des Femmes, p. 178; Chevalier, Edin. Med. and Surg. Journal, vol. ix. p. 196.; Philips, Medico-Chir. Trans. vol. ix. p. 427; Bostock, vol. x. p. 77; Thomas, vol. xiii. p. 330; Fleury, Archiv. gen. de Med. July, 1838; Davis, Med. Gazette, Sept. 21, 1834; Dr. Bright's Reports of Ovarian Disease, in Guy's Hospital Reports.

† Dr. Douglas saw a case in a female of 27 years of age.

‡ Nauche, Mal. prop. aux Femmes, vol. i. p. 165.

peculiar change of structure, and the formation of many cysts, containing sometimes watery, but generally viscid fluid, and having cellular, fibrous, or indurated substance interposed between them, frequently in considerable masses."*

Le Dran states that the dropsy always succeeds to scirrhus of the ovary, but this is denied totally by William Hunter and Burns.

The dropsical fluid varies much in quantity: there may be only a few ounces, or there may be several gallons.† Morand evacuated 427 pints in ten months.‡ Martineau§ also drew off 495 pints within a year, and from the same patient 6631 pints by 80 operations, within 25 years. A lady was tapped by Portal 28 times; and in a case related by Ford, the patient was tapped 49 times, 2649 pints having been taken from her.

It appears to be limited only by the distensibility of the ovary; for when it has been evacuated by tapping, the secretion recommences with astonishing rapidity, so as to refill the sac in a very short time. The quality of the fluid varies. Dr. Rees‖ has examined the fluid in several cases, and found albumen, fatty matter, alkaline chloride, with sulphate of lime and soda, extractive, &c.

The contents of the sac may be quite fluid, viscid like jelly, or still more concentrated; and when there are many cells, fluid of different characters may be contained in each. It has been said that after each tapping the fluid becomes thicker: this, however, is by no means invariably the case.¶ It is difficult, if not impossible, to ascertain by abdominal manipulation what may be the consistency of the fluid. The fluctuation may be more or less obscure; but we cannot depend upon this, as it may arise from the density of the ovarian parietes, and the degree of distension.

In color, it is generally yellowish; but this may vary to a dark brown, or even black,** and its transparency will in proportion diminish.

"The fluid which they contain may be clear or yellowish in the smaller vesicles; clear and transparent, or muddy, thick like jelly, cream, or honey, in the larger. It is sometimes mixed with fluid or coagulated blood; with hydatids, pus, fleshy substance, as the remains

* Midwifery, p. 136.

† Blundell on Diseases of Women, p. 105. Med. Chir. Trans. vol. xiii. p. 330; Boivin and Dugès, Diseases of the Uterus, &c. p. 495; Davis's Obstetric Medicine, vol. ii. p. 768.

‡ Mem. de l'Acad. de Chirurg. vol. ii. p. 448.

§ Philos. Trans. 1784, p. 471.

‖ Guy's Hospital Reports, vol. vi. p. 209.

¶ Blundell on Diseases of Women, p. 106.

** Hamilton, Pract. Obs. part 1, p. 87, *note.*

of placenta; with membranes, hair, or bony matters. It is sometimes of a different color, consistence, and nature, in the different cells of the same cyst."*

"M. Jules Fontanelle† ascertained by analysis, that of 8½ pints of this brown and turbid fluid, there were 6 parts of fibrine, 97 of albumen, 34 of congealed gelatine, a little phosphate and hydrochlorate of soda."†

Small scales of chlorestine are occasionally found in some of the cells.‡ But the contents of these dropsical sacs are not always fluid; we sometimes find hydatids,§ and fleshy substances, resembling portions of placenta. Matters of a still more extraordinary character are by no means very rare. Hair,‖ teeth, bones, &c. have been discovered in considerable quantities.¶

The only rational explanation of the presence of these latter is the supposition that two germs may be involved in the same vesicle; and whilst one becomes the seat of dropsical accumulations, the other by some means is stimulated into partial development.

Dr. Lee does not consider these singular productions to be connected with conception, but as examples of that monstrosity described by MM. Ollivier and Breschet, as "*diplogénèses par penetration.*"**

* Nauche, Mal. prop. aux Femmes, vol. i. p. 165.

† Boivin and Dugés, Diseases of the Uterus, &c. p. 459, *note.*

‡ Cruveilhier, N. Dict. de Med. et de Chir. prat.; art. Ovaire.

§ "Distension of the ovaria is sometimes produced by hydatids; that is, vesicular bodies detached from the cavities containing them—real entozoa. This state of things has frequently been ascertained only on post-mortem examination, whether the individual died of some other affection; or whether, as in the case given by M. Cruveilhier from M. Barret, the inflammation of the sac had itself brought on death. In the case of M. Roux, quoted by the same writer, an incision made in the tumor formed by the hydatids, near one of the sides of the vagina and pudenda, allowed of their expulsion, and cured the patient."—*Boivin and Duges, Diseases of the Uterus, &c.* p. 457. See also Med. Chir. Trans. vol. iv. p. 427.

‖ Anderson, Ed. Med. and Surg. Journal, vol. ii. p. 180; Abernethy, Med. Chir. Trans. vol. i. p. 35.

¶ Cyclop. of Pract. Med.; art. Diseases of the Ovaria.

** According to Cruveilhier, the cysts may be *unilocular*, where probably only one vesicle was originally diseased, the walls are fibrous and smooth externally; *multilocular*, with an irregular surface; *multiple*, composed of a series of multilocular or unilocular cysts; *areolar* or *gelatiniform*, "in which the tissue of the ovary is divided into cells or areolæ, and which exactly resembles the areolar or gelatiniform

At an early stage of the disease, the fluid may be contained in one vesicle; but as others are involved, and increase in size, the whole becomes agglomerated and adherent, forming what has been called multilocular or many-celled dropsy. This, however, is not always the case; in some instances, the fluid occupies but one large cavity.* When there are cells, they may or may not communicate with each other. It is a great advantage when they do, as one puncture will drain the whole fluid, just as well as though it were contained in a single sac.

"The late Mr. Cline used to exhibit a preparation of this sort, observing that if you tapped one of the cysts in this state of the parts, you would, of consequence, empty all the rest at the same time. Mr. Cline's preparation is the only case which it has been my lot to witness; but in many-cysted ovarian dropsy, it far more frequently happens (in nine cases out of ten, at least, and probably in a larger proportion,) that the cells are not in communication with each other, so that the tapping of one cyst produces a partial relief only."†

If the inner substance of the sac be examined, it will in most cases be found quite smooth, and having the appearance of serous membrane: in some few others, it is covered by irregular excrescences, compared by Burns to uterine cotyledons. These may interfere with our wishes, if we try to procure adhesion of the walls of the sac by exciting inflammatory action.

Each cyst is said to consist of three membranes: the external and internal ones serous; and the intermediate one of a fibrous texture.‡

The parietes vary much in thickness: sometimes they are as thin as brown paper; in other cases they are an inch thick. This increase may depend either upon a hypertrophied condition of the natural parietes, or upon the deposition of foreign tissue.

"This dropsy, the most common of all encysted dropsies, is often complicated with some of the diseases which have been already described; so that one part of the cyst containing the fluid sometimes presents a considerable thickness, and appears to be scirrhous, cerebriform, or steatomatous. In such cases only could the empty cyst

cancer of the stomach," &c.; *acephalocysts.—Nouv. Dict. de Med. et de Chir. prat.: art. Ovaire.* Cruveilhier, Anat. Path. liv. 5, pl. 3.

* "Occasionally one or both ovaria are converted into simple cysts; the whole of the cellular substance and vesicles disappearing; that which was the fibrous coat of the ovarium becoming the fibrous coat of the cyst."—*Seymour on Diseases of the Ovaria*, p. 45.

† Blundell on Diseases of Women, p. 105.

‡ Nauche, Mal. prop. aux Femmes, vol. i. p. 166.

weigh fourteen and even twenty-seven pounds. The simple cyst is always fibrous; sometimes muscular and reticulated; it is of a greyish-white color, and its thickness varies considerably in such circumstances, in different persons; the sac, seldom thin and semi-transparent, more frequently presents one or more lines, and even an inch in thickness; this thickness, however, is not the same throughout. The ovarium, or its remains, which have sometimes entirely disappeared, may form a sort of knot on one of the parietes of the sac. In other cases there are similar knots, or cartilaginous, or even osseous deposits. The peritoneum covers externally this proper tunic; and very often numerous and voluminous vessels, really hypertrophied, like the organ itself which supplied the original elements of the cyst, are found over almost all the superficies, or in one of its regions exclusively. These are principally veins, according to Cruveilhier; Delpech considers them to be arteries, and says he has carefully dissected them, and found them in the parietes of the cyst, of the size of the little finger.*

Dr. Hodgkin has given a most admirable account of the anatomical peculiarities of these adventitious structures.† He speaks of three classes. 1. Of those whose parietes present the very remarkable character of producing other cysts of a similar character with themselves. 2 Of those characterised by slender peduncles. 3. Of those with broad and extended bases. The description is too long for quotation, but will amply reward the perusal.

Dr. Blundell, and other authors, speak of scirrhus combined with, and complicating, ovarian dropsy.

Occasionally, large veins are seen meandering over the surface of the tumor; but this is not generally the case. Arteries may also be felt pulsating sometimes; and in one such case I observed a distinct '*bruit de soufflet*,' like the placental '*souffle*.'

The relations of the diseased ovary with the adjacent viscera may become practically important. In some cases it continues free and unconnected; but "when a patient has been tapped frequently under this case, I strongly suspect that extensive adhesions to the parts adjacent will be by no means infrequent: but if the disease have been unattended with much inflammation, it does certainly sometimes happen that the adhesions of an enlarged ovary are very slight, so that the whole mas may be taken away."‡ We shall see hereafter, that the proposed radical cure of the disease depends very much for success upon the freedom of the tumor.

* Boivin and Dugès, Diseases of the Uterus, &c. p. 457. See also Hooper's Morbid Anatomy of the Human Uterus, p. 20, et seq

† Medico-Chirurg. Trans. vol. xv. part 2, p. 275, et seq.

‡ Blundell on Diseases of Women, p. 107.

This disease may attack one or both ovaries, but it is rare to find both arrived at the same stage: one may fill the abdomen, whilst the other is not larger than an orange.

354. *Causes.*—It is often very difficult to attribute it to any cause: the organs are so little exposed to ordinary irritants, so defended by the bony pelvis, and they yield so few indications of their primary affections, that in many instances we must be quite at a loss.

It is sometimes coincident with disease of the womb, with suppressed menses, or checked leucorrhœa. It has been attributed to damage received during difficult labor, or to violent emotions, blows, falls, cold, &c.*

Nauche conceives it to be constitutional, and the result of a scrofulous diathesis; whilst among the predisposing causes, Capuron† places celibacy, sterility, and old age.

The remains of placenta, teeth, hair, &c. have been attributed to a false conception; but there are many circumstances which are left unexplained by this theory.

355. *Symptoms.*—For some months, or it may be years, after the commencement of the disease, the ovary will continue in the cavity of the pelvis; but upon attaining a certain size (just as with the uterus in pregnancy), it escapes into the cavity of the abdomen. Now, it is very evident that not only will the general symptoms vary, but that the mechanical symptoms resulting from pressure upon the pelvic viscera, will be very diverse from those which are developed after the tumor occupies the abdomen.

In either case, they may be divided into those which arise from mechanical pressure, from sympathetic irritation, or from diseased actions in the ovary itself. The intensity of the two first is in proportion to the increase of the tumor; and the symptoms resulting may be equally well marked, whether the tumor be in the pelvis or abdomen. The latter series is developed as the disease approaches its termination.

356. Let us first enumerate the more prominent symptoms which arise whilst the tumor is in the pelvis.‡ These are at first very deceptive: the patient feels a weight in the pelvis, without any illness; and as it

* Burns' Midwifery, p. 149.

† Mal. des Femmes, p. 178.

‡ "There are three characteristics by which recto-vaginal dropsy of the ovary may be known: a tumor within the cavity of the pelvis, with the vagina in front, and the rectum posteriorly; a fluctuation more or less palpable, and an assemblage of symptoms more numerous in some cases, of smaller number in others, but most of them referable to irritation, obstruction, and compression of the viscera within the pelvis."—*Blundell on Diseases of Women*, p. 108.

often happens that the menses are suppressed, the breasts painful,* increasing in size, and sometimes secreting milk,† she of course fancies herself pregnant. It is said that morning sickness occurs, as in early pregnancy.

"In a case detailed by Vater, the patient had symptoms of pregnancy, secreted milk, and even thought she felt motion. The belly continued swelled, and she had bad health for three years and a half, when she died. The abdomen contained much water, and the right ovarium was found to be as large as a man's head, containing capsules, filled with purulent-looking matter. The uterus was healthy, but prolapsed, and the ureter was distended from pressure."‡ "This was not a case of extra-uterine gestation, for the ovarium was divided into cells, and had no appearance of fœtus."§

As the tumor increases in size, its weight becomes an inconvenience, and is accompanied by occasional dysuria, and sometimes by constipation and piles.

The pressure upon the rectum, by arresting the progress of the intestinal contents, sometimes gives rise to great distension of the bowels, and also to dilatation of the ureters. "In a case," says Dr. Robert Lee, "which lately came under our observation in the Marylebone Infirmary, an ovarian cyst having become firmly impacted between the bladder and rectum, produced all the symptoms of stricture of the rectum. In a lady now under our care, the presence of an ovarian or uterine tumor in the pelvis, which presses upon the neck of the bladder, renders it impossible for the bladder to be emptied without the introduction of the catheter."‖

The patient also complains of a dragging sensation from the loins.

If a vaginal examination be made, we may discover a tumor between the vagina and rectum; and if the parietes be thin, fluctuation may be detected. The os uteri may be in its natural situation, depressed or elevated, or pushed to either side, just according to the size and situation of the ovarian tumor, which is not sensible to pressure.

If the finger be introduced into the rectum, past the tumor, we shall find the fundus uteri, and be able to distinguish it from the enlarged ovary. This is very necessary, or we might conclude the case to be retroversion of the womb. In addition, we may perhaps be able to decide whether one or both ovaries be diseased.

357. But if we are not called to the patient until the ovary has as-

* M. Robert says that it is generally the one on the same side as the diseased ovary.

† Burns' Midwifery, p. 137.

‡ Haller's Disp. Med. tom. iv. p. 40.

§ Burns' Midwifery, p. 137, *note*.

‖ Cyclopedia of Pract. Med.; art. Diseases of the Ovaria. Also Burns' Midwifery, p. 138.

cended into the abdomen, we shall find some alteration in the symptoms. There is no complaint of weight in the pelvis, or of bearing down, and the constipation may have ceased. Instead of difficulty in passing urine, the patient now rather complains of the impossibility of retaining it long.

The pressure upon the veins of the abdomen and lower extremities may be attended with the usual consequences (as in pregnancy); piles may form, and one or other leg may become œdematous.

As the tumor increases, it will be found to compress more or less the intestines, stomach, liver, and even to push up the diaphragm, interfering with the functions of the stomach, and giving rise to palpitations, dyspnœa, heartburn, &c. The quantity of urine is sometimes diminished, in others unaltered. In a case related by Portal,* the ureters and kidneys were compressed, and the urine retained. When the sac was punctured, the urine flowed freely into the bladder.

The patient's having been some time ill, and debarred from active exercise, will interfere with her general health; and it seldom happens that these tumors attain a large size in less than a year or more.

The sympathetic irritations very often persist, the breasts continuing large and painful, and secreting a thin milky fluid. It does not always interfere with the generative functions, for pregnancy has been known to occur during the existence of an ovarian dropsy.† If the tumor have ascended into the abdomen, no inconvenience may be experienced; but if not, parturition may be impeded, and the patient be more or less compromised.

Menstruation is sometimes regular, sometimes interrupted or suppressed. Dr. Seymour says, that "when both ovaria are diseased in this way, the catamenia are always absent."

If we examine the abdomen, we may detect the tumor as soon as it appears above the brim of the pelvis, and it will then be found lying in one of the iliac fossæ. There it remains for some time, gradually encroaching upon the abdominal cavity as it increases, but, until it quite fills it, always leaning more to one side than the other, and occupying the lower rather than the upper half.

The surface may be felt to be either smooth or tuberose; and if the walls be tolerably thin, fluctuation will be detected.

This sign is more obscure than before the ascent of the tumor, until the accumulation be considerable.

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* Cours d'Anatomie Medicale, tom. v. p. 549.

† Med. Chir. Trans. vol. xviii. p. 226. Hamilton's Practical Observations, pt. i. p. 71.

"Females have become pregnant, and have been delivered many times, notwithstanding a dropsy of one of the ovaries."—*Capuron, Mal. des Femmes*, p. 182.

If a *vaginal* examination be made, the uterus will be found higher than natural, with the cervix drawn out as during the latter months of pregnancy.

Pressure upon the os uteri communicates no shock to the other hand placed upon the abdomen.

The general health, I have already said, is tolerably good for a considerable time; but as the disease advances, it is interfered with by the third class of symptoms, or those which are caused by diseased action in the ovary itself. Dr. Burns' description is so graphic, that I quote it with pleasure:—

"In the course of the disease, the patient may have attacks of pain in the belly, with fever, indicating inflammation of part of the tumor, which may terminate in suppuration, and produce hectic fever; or the attack may be more acute, causing vomiting, tenderness of the belly, and high fever, proving fatal in a short time; or there may be severe pain, lasting for a shorter period, with or without temporary exhaustion, and these paroxysms may be frequently repeated: but in many cases these acute symptoms are absent, and little distress is felt until the tumor acquires a size so great as to obstruct respiration, and cause a painful sense of distension. By this time the constitution becomes broken, and dropsical effusions are produced. Then the abdominal coverings are sometimes so tender, that they cannot bear pressure; and the emaciated patient, worn out with restless nights, feverishness, and want of appetite, pain, and dyspnœa, expires."*

Encysted dropsy of the ovary is of slow growth, and may last many years without destroying the patient, though these cases are rare.

"The Memoirs of the Academy of Surgery prove that it may last fifty-eight years. Professor Sabatier has examined the bodies of several women who have carried these encysted tumors during half a century, without alarming derangement of health. Dropsy of the ovary, then, is not a very alarming disease, unless it be very ancient and very voluminous."†

358. It may terminate in various ways, but unfortunately it is very seldom that the patient escapes.

1. In some few cases the disease would appear to have terminated in *resolution*, by absorption of the fluid.

2. *Inflammation* may take place in the serous covering of the cyst, giving rise to *adhesions* between the ovary and the small intestines,‡ colon, bladder, vagina, &c. into which the ovary *sometimes* opens, and

* Burns' Midwifery, p. 139.

† Nauche, Mal. prop. aux Femmes, vol. i. p. 174. See also a case in Medical Gazette for July 18, 1836.

‡ "When I was attending the wards of this hospital, a woman of the name of Myers came here with an exceedingly large abdomen: this enlargement was occasional, and the woman got better repeatedly after large spontaneous eruptions of water, by vomiting and purging.

by which the fluid is evacuated, with at all events temporary relief, and in some cases perfect cure.* Through the kindness of Dr. Croker, I had an opportunity of seeing more than one patient in the 'Hospital for Incurables,' who obtained relief from time to time in this way.

These adhesions very often alter the position and relation of the viscera. The sac has in some cases opened externally through the umbilicus, or through the groins.

3. *Inflammation* may attack the ovary, and carry off the patient, either quickly or after the formation of matter.‡ This not unfrequently happens after the patient has been tapped.

4. *The parietes of the ovary may give way*, and its contents be evacuated into the peritoneum, sometimes causing death by inflammation;§ but in a few other cases obliterating the sac by adhesions.‖

359. *Diagnosis.—Whilst confined to the pelvis*, it may be distinguished—

1. *From retroversion of the uterus*, by its slow growth, the mildness of the symptoms, and by an examination 'per rectum.'

2. From *dropsy of the fallopian tubes*, by a careful examination 'per vaginam' and 'per rectum,' and by the more prominent symptoms, such as weight, downward pressure, dysuria, and constipation.

3. From *early pregnancy*, by careful internal examination only, by which the ovary can be distinguished from the fundus uteri. The diagnosis, however, may be confused by the co-existence of pregnancy and encysted dropsy.

4. From *tumors in the cellular membrane, between the vagina and rectum*, principally by the extent of its mobility.

After its ascent into the abdomen, it may be distinguished:

1. From *the distended bladder*, by a vaginal examination, and by

Now, I have no doubt that in this case the dropsy was ovarian, and in all probability the cyst occasionally opened into the intestines, by ulceration or rupture, a sort of natural tapping being performed."—*Blundell on Diseases of Women*, p. 122.

* Denman's Midwifery, p. 84. Seymour's Illustrations of Diseases of the Ovaria, p. 52.

† Robarts, Jan. 11, 1840. De Freyden. Caspar's Wochenschrift, Jan. 1839.

‡ Patterson, Philadelphia Med. Examin. February 16, 1839. H. Davies, Med. Gazette, 1839. Douglas, Med. Gazette, December 6, 1839. Crisp. Ranking's Abstract, vol. ii. p. 240.

§ Addison, Guy's Hospital Reports, No. 1, p. 41.

‖ "A distended bladder has been mistaken for ovarian dropsy; nay, the uterus itself has been tapped when the womb has been pregnant."—*Blundell on Diseases of Women*, p. 111.

the effects of catheterism, which should never be omitted in all such cases.

2. From *ascites*,* by the defined form of the tumor, by its permanent inclination to one side, by its being unaltered in the recumbent posture, and by the *obscure* fluctuation;† by a vaginal examination, which will reveal the elevation of the uterus, and by an investigation 'per rectum,' which enables us to detect the enlarged ovary. The general symptoms are less marked in ovarian dropsy than in ascites.

3. From *chronic peritonitis*, by the resonance of the abdomen on percussion in many points, its tenderness, the projections which it contains, parallel to portions of adherent intestines.

4. From *pregnancy*, by the duration of the disease sometimes, and by a careful comparison of auscultation, vaginal and rectal examinations, and the symptoms.

I may just remind the reader, that if the tumor contain any large arteries, a sound perfectly resembling the *placental souffle* may exist, quite independent of gestation.‡

* Dr. Hamilton proposes the operation of tapping as a means of diagnosis between ascites and ovarian dropsy. "The peculiar appearance of the fluid, which in dropsy of the ovarium is commonly amber-colored, and of the consistence of melted calf's-foot jelly, but more particularly the collapsed sac, distinctly perceivable on the day after tapping, like the contracted uterus on the day after delivery, afford certain evidence of dropsy of the ovarium."—*Pract. Observ.* Part I. p. 37.

† "This characteristic may serve especially to distinguish the cases in which ascites and encysted dropsy co-exist; a space is then perceived between the abdominal parietes and a tumor unattached within the cavity of the peritoneum: this space is fluctuating, filled with water, constituting a layer of variable thickness in different points, and even in the same point, according to the attitude of the patient: a brisk pressure of the hand upon the abdomen easily removes the water, and strikes against the cyst, the resistance of which is always perceptible."—*Boivin and Duges, Diseases of the Uterus*, &c. p 465.

As this phenomenon will occur in precisely the same manner when ascites is combined with pregnancy, its value in ovarian disease is proportionably diminished.

‡ See Dr. Montgomery's work, On the signs of Pregnancy, p. 123. Bouillaud, in his Traitè Clinique des Maladies du Cœur (Brussels Edit. p. 73), when speaking of the anomal sounds of arteries, mentions two cases of tumor in the region of the ovaries, accompanied by "bruit de soufflet, ordinaire et intermittente;" and this he attributes to their pressing upon some large artery.

5. From *extra-uterine pregnancy*, by the history of the case, and by careful *external* and *internal* examination.

6. From *uterine tumors*, by the use of the sound, which will show the position and size of the uterus, and its distinctness from the ovarian enlargement: and by the difference of the shock communicated to the finger placed on the os uteri by percussion on the abdomen.

7. From *malignant disease of the ovary*, by its more rapid growth,* and by the mild character of the symptoms.

Dr. J. H. Bennet of Edinburgh has proposed the microscopic examination of the fluid removed by paracentesis, as an additional ground of diagnosis. "In this fluid flocculi exist, which are not composed of lymph as was at first supposed, but of numerous cells varying in size from one-hundredth to one-fortieth of a millimetre in diameter. They are slightly granular, of round and oval shape, unaffected by water, but becoming more transparent on the addition of acetic acid, and exhibit a distinct nucleus about the one-hundred and fortieth of a millimetre in diameter. The indurated cells are imbedded in a granular matter which can be easily broken down. They thus resemble those which constitute the epithelial surface of certain membranes. The cysts in the diseased ovary are lined by a delicate membrane, covered with nucleated epithelial cells, and there is no difficulty in identifying the corpuscules seen in the fluid with those observed lining the cysts."†

360. *Prognosis.*—In forming our prognosis, we must be governed very much by the size of the tumor, by the length of time it has existed, by the local condition, and by the constitution of the patient.

361. *Treatment.*—At an early period, whilst the tumor is within the cavity of the pelvis, we may perhaps attempt the palliative treatment with some prospect of success,‡ though Capuron and others express great doubts.

Diuretics, diaphoretics, and purgatives, with abdominal frictions, may be employed, provided they are not carried to such an extent as to injure the constitution of the patient. In some cases they have appeared to be useful, but more generally no benefit is derived from them, so that the opinion of the profession is rather adverse to their use.

"In the beginning of this dropsy, when the increasing ovarium is first perceptible through the integuments of the abdomen, and

* "Rapid growth, when it occurs, is an excellent diagnostic; for though slow growth is no certain disproof of encysted accumulation, we may be almost certain that the ovary is enlarged from dropsy, scirrho-dropsy, or at all events an encysted accumulation of one kind or other, if the growth have taken place in the course of a few months."—*Blundell on Diseases of Women*, p. 108.

† Ed. Med. and Surg. Journal, April 1, 1846, p. 403.

‡ See Ryan's Journal, July 29, 1837.

sometimes in its progress, there is often so much pain as to require repeated local blood-letting by scarification or leeches, blisters, fomentations, laxative medicines, and opiates, to appease it. I have also endeavoured to prevent or remove the first enlargement by a course of medicines, the principal of which is the ung. hydrarg. rubbed upon the part, or calomel given for a considerable time in small quantities, with an infusion of burnt sponge; or the ferrum tartarizatum or ammoniacale; trying occasionally what advantage was to be obtained from blisters; from a plaster composed of gum ammoniacum, dissolved in the acetum scillæ; or lastly, from electricity. From all or some of these means I have frequently had occasion to believe some present advantage was obtained, or mischief prevented; but when the disease has made a certain progress, no method of treatment has hitherto been discovered sufficiently efficacious to remove it or prevent its increase."*

"When they (diuretics) produce any effect, it is chiefly that of removing dropsical affection combined with this disease; and in this respect they are most powerful immediately after paracentesis. With regard to their power, or the power of any other medicine, of diminishing the size of the ovarium, my opinion is that they have no more influence on it than they have over a melicerous tumor on the shoulder, or over the disease when it occurs in the testicle, or over the configuration of the patient's nose."†

Gentle percussion, combined with compression of the tumor, has been tried, and, it is reported, with success.

Dr. Hamilton states, that after sixteen years' trial, he has "succeeded in a number of cases, in curing or retarding the disease, by the simple means above alluded to, viz. from compression of the abdomen, percussion, the use of the warm bath, and a protracted course of the muriate of lime, together with the ordinary means for promoting general health." The Professor strongly objects to the use of mercury.‡

Mercurial frictions have been temporarily successful, but there are objections to their employment. More benefit has been anticipated from iodine, but the cures are at present too recent to be relied upon. It must be administered with great caution, and only in the absence of all signs of inflammation.

It will be desirable that we should apply ourselves to the relief of any mechanical inconvenience, such as strangury or constipation, by catheterism and aperient medicine. Complete relief may sometimes be afforded by pushing the tumor above the brim of the pelvis.

If there be any local complication or constitutional debility, such will be important objects of judicious treatment.

* Denman's Midwifery, p. 81.
† Burns' Midwifery, p. 141.
‡ Pract. Obs. Part I. pp. 102, 105, 108.

Nauche recommends, in scrofulous constitutions, besides the general remedies usually employed, frictions of the abdomen with the Ung. Napolit., or with an ointment containing eight or ten grains of calomel, or from ten to twenty grains of the hydriodate of potash, or the iodurет of mercury, in the ounce.*

As to the plan to be adopted when the pelvic tumor offers an impediment to parturition, if we cannot push it above the brim of the pelvis, there can be no hesitation in agreeing with Burns, that puncturing the ovary should be tried before having recourse to the crotchet.†

362. When the tumor has ascended into the abdomen, it is still advisable to postpone all active interference as long as possible; but when this can no longer be done, when the tumor is so large and so tense as to impede the functions necessary to life, or to threaten rupture, then we anticipate the evil, and evacuate the fluid by making an incision through the integuments, and plunging a trocar into the sac, about midway between the pubes and umbilicus, a little to one side of the linea alba.‡

Petit Radel, Ledran, and Monro mention cases which were cured by this method; but more generally the relief is but temporary, and there are several weighty objections against it.§ 1. The woman

* Mal. prop. aux Femmes, vol. p. 175.

† Churchill's Midwifery, p. 225. See also Dr. Park's and Dr. Merriman's observations on this subject, in the 3rd and 10th vols. of the Medico-Chirurg. Transactions.

‡ Denman seems to object to making an incision into the part, at least until the last extremity. "Nevertheless," says he, "I believe it in general the best practice to defer the operation till we are driven by necessity to perform it, as the progress of the disease is afterwards more rapid."—*Midwifery*, p. 83.

"Although women do live now and then to undergo these frequent tappings, yet they more generally sink; and hence, in ordinary practice, the longer the first tapping can be delayed the better; for there is nothing more unwise than to ground your general practice upon the exception to the rule, though the error is not unfrequently committed. Tapping, after all, is an unsatisfactory remedy; in scirrho-dropsy it is dangerous; in dropsy with many cysts it is of partial relief; when the encysted accumulation is viscid, it is of no effect; and even in cases the most favorable, tapping exposes the patient to inflammations, adhesions, suppurations, exhaustions, repetitions, and death."—*Blundell on Diseases of Women*, p. 113. *Bedford on Ovarian Disease*, New York Med. Journal, Jan. 1840.

§ See Hamilton's Practical Observations, Part I. p. 111. Dolhoff, Rust's Magazine, vol. 51, pp. 1, 82.

may sink from exhaustion, if the fluid be evacuated rapidly. 2. Inflammation of the peritoneum may carry off the patient. 3. Inflammation may attack the sac, and prove fatal.* 4. The sac refills with such rapidity as to require repeated tappings. 5. The operation may be performed in vain, in the case of many-celled encysted dropsy, if the cells do not communicate, or if the fluid be too viscid to pass through the canula,† or if the main bulk be hydatids. 6. If scirrhus be combined with the dropsy, the operation will be of no avail, and the patient's end be rather accelerated.

Of twenty cases given by Mr. Southam from his own practice, and that of Drs. Bright and Barlow, fourteen died within nine months after the first operation, four of whom survived it only a few days. Of the remaining six, two died in eighteen months, and four lived for periods varying from four to nearly nine years. It further appears that paracentesis does not prolong life, on an average, for more than eighteen months and nineteen days, and that one in five dies from the effects of the first operation.

Of forty-six cases collected by Dr. Lee, thirty-seven died and nine recovered; fifteen died within a month after the operation; seventeen by the end of two years; and five from three to fifteen years afterwards.

All these considerations should be duly estimated before we attempt the operation; but, notwithstanding all, the temporary prolongation of life may be of such importance as to induce us to operate.

A flat trocar and canula appear to occasion the least pain, and it should be plunged sufficiently deep to ensure its traversing the parietes of the cyst. After the operation, a broad binder should be applied tightly round the abdomen.

It has been mentioned that one tapping necessitates another, if the patient live; and such cases have been cited. Whenever this is the case, the patient should be very carefully examined, to ascertain if she be pregnant. This, which is necessary in every case, becomes doubly so the second time, as the patient may have conceived in the interval. The distended bladder and the pregnant uterus have both been punctured by mistake for ovarian dropsy.

* The late Mr. Chevalier once had occasion to tap an ovary containing seventeen gallons. In this case it was thought proper to proceed with caution, and the water was drawn off, not all at once, for this sudden collapse would have been dangerous, but at three or four different times; yet, notwithstanding the prudent manner in which the operation proceeded, extensive inflammation of the cyst ensued, and the woman died hectic, at the end of a few weeks, with one or two gallons of puriform matter in the cyst. It is remarkable that no inflammatory tenderness accompanied this attack."—*Blundell on Diseases of Women*, p. 113, *note*.

† "I remember once seeing a women in the east of the town,

If there be many cells, we are advised to make several punctures,* or if the fluid be viscid, to make a large opening;† but both these propositions require mature consideration.

In some cases it has been deemed advisable to puncture the tumor through the vagina.‡

After the operation, diuretics may be given, and a blister applied to the abdomen by way of preventing the re-accumulation, and this has occasionally succeeded.

363. Considering the unsatisfactory result of merely evacuating the contents of the sac, several other plans have been proposed in order to obtain a radical cure.

1. It has been suggessed, that after the emptying of the sac, some stimulating fluid might be injected, as is done occasionally in hydrocele, for the purpose of exciting inflammation, which may end in obliteration of the sac. It is unnecessary to point out the hazard incurred by exciting inflammation in so large a surface; but it should be stated that the results of the trials which have been made have been very disastrous.§

2. Dr. Blundell‖ has proposed *early* tapping, as a "practice which may be *thought* of" in these cases, on the principle, that as in the smaller cysts the accumulation is less rapid, the patient would suffer less by the operation. He thinks that a puncture might be made into the tumor whilst in the pelvis, or an incision into the abdominal parietes might allow the finger to guide a trocar down the tumor.

3. In some cases an attempt has been made to obtain a cure by making an extensive incision into the ovary, and sometimes with suc-

laboring under a dropsy of this kind, for which tapping was recommended. On seeing this woman, I told the friends that the contents of the ovary were probably viscid; for, though the growth had been rapid, the fluctuation was obscure: nor did I regret this contrary opinion, for when the ovary was tapped, there came away enough to show that encysted accumulation existed; but still the discharge was sparing, viscid, and the tumor remained unreduced. Mr. Abernethy afterwards saw this case, when the urgency of the distension led the attendant to operate again, with as little benefit as before; on observing this, Mr. Abernethy prudently dissuaded from further attempts, observing, as I was informed, "that it would not do to go on boring holes in the belly,' and ultimately the patient died."—*Blundell on Diseases of Women*, p. 112, *note*.

* Lancet, May 25. 1839.

† Nauche, Maladies propres aux Femmes, vol. i. p. 176.

‡ Med. Gazette, March 16, 1839.

§ Hamilton's Pract. Observ. part 1, p. 115.

‖ On Diseases of Women, p. 119.

cess, although a fistulous opening remained. (*Ledran,** *Houston,*† *Voisin,*‡ *Portal,*§ *Delaporte.*‖)

364. 4. Lastly, the extirpation of the diseased ovary has not only been proposed but practised to a considerable extent. It is said to have been first recommended by Vanderhaar, and afterwards by Delaporte, Morand, and Logger. In more recent times it is advocated by Blundell, Lizars, Warren, Duffenbach, Clay, S. Lee, Atlee, Smith, &c. It is opposed by De Haen, Morgagni, Murat, Capuron, Hamilton, &c.

I may add Dr. Hamilton's objections; he says: "1. It is extremely difficult to distinguish enlargement of the ovary in its early stages; and it is still more difficult to foretell the progress of such enlargements; any operation might therefore be useless or unnecessary, unless if there be no disease, and unnecessary if the disease be in a stationary condition. 2. There is always a risk, in cases of enlarged ovary, that there may be a complication of organic disease, or that morbid adhesions may have formed, connecting the disease with other parts. 3. As no prudent practitioner would think of operating unless the patient's health suffered or seemed to suffer from the disease, there must, in every such case, be the hazard of some malignant affection existing, which no operation could remedy."

* Mem. de l'Acad. de Chir. vol. iii. pp. 431, 442.

† Philos. Trans. vol. xxxiii. p. 5.

‡ Recueil periodiq. vol. xvii. p. 381.

§ Cours d'Anatomie, vol. ii. p. 554.

‖ Mem. de l'Acad. de Chir. vol. i. p. 452.

"In cases where the encysted fluid is too thick, or when it is contained in many distinct cells, Ledran advises that an incision should be made in the lowest part of the tumor, and kept open by means of a tent. His intention is to destroy by this means the parietes of the tumor, and to procure a firm cicatrix. But this method is generally abandoned, because it was remarked that it accelerated the death of the patient. "It has also been proposed to extirpate the ovary. But even if this were safe for a healthy woman, who would dare to attempt it when the ovary may be diseased? Must we not fear the gravest accidents? We conclude, then, that the extirpation, as well as the incision of the ovary, ought to be rejected as dangerous and insufficient."—*Capuron, Mal. des Femmes*, p. 187.

"It has been attempted to produce a radical cure, by laying open the tumor, evacuating the matter, and preventing the wound from healing, by which a fistulous sore is produced; or by producing a tent, or throwing in a stimulating injection. Some of these methods have, it is true, been successful, but occasionally they have been fatal; and in no case which I have seen have they been attended with benefit."—*Burns' Midwifery*, p. 142.

It has recently been repeatedly performed with varying success, as may be seen by refering to the list of cases published by Dr. Atlee in the *American Journal of Medical Science* for April, 1845, or to the appendix to Mr. Safford Lee's work on Tumors of the Uterus, &c. where all the peculiarities of each operation are given in a tabular form. The results are summed up in the following extract from a subsequent paper by Dr. Atlee :—

"In the *Amer. Journ. of Med. Sciences*, April, 1845, I published a table of 101 cases of Ovariotomy, in which I made a synopsis of the important points of each case. Since the publication of that table, I have been watchfully keeping pace with the operation, and have now tabulated 179 cases. I also made an analysis of that table, in order that the profession might see at a glance the most important aspects of this operation prominently arranged. I have done the same with my manuscript table, and will submit it to the profession, in order that they may properly estimate the present condition of gastrotomy:

"1. Of these 179 cases, 28 were of the minor section, 133 of the major, and 18 unknown. Of the minor operation, 20 recovered, and 8 died, or one in every $3\frac{1}{2}$; of the major, 87 recovered, and 46 died, or one in $2\frac{41}{46}$; of the unknown, 13 recovered, and 5 died, or one in $3\frac{3}{5}$. Total, 120 recovered, 59 died, or one in $3\frac{2}{59}$, or 59 in 179 cases, or 32.96 cases in 100.

"2. Of the 179 cases, 34 were not completed, or one in $5\frac{9}{34}$; and, in 6, there was no tumor, or one in $29\frac{5}{6}$ cases.

"3. Of the 34 unfinished operations, 19 were the large section, 8 the small, and 7 unknown; 14 of the first recovered, 5 died, or one in $3\frac{4}{5}$: 4 of the minor recovered, 4 died, or one in 2; 6 of the unknown recovered, 1 died, or one in 7. Total, 24 recoveries, 10 deaths, or one in $3\frac{2}{5}$ of the unfinished cases.

"4. Of the six operations in which no tumor was found, 5 were major, and 1 minor; 3 of the former recovered, 2 died; and the minor recovered—making 4 recoveries, 2 deaths, or one in 3 cases.

"5. In 17 cases, other important diseases co-existed; in 4 of these the operation was left unfinished, and all the patients recovered; death occurred in all the rest but one. 14 of these cases were the major, 2 the minor, and 1 unknown.

"6. In 62 cases there were adhesions; in 41, none; in 76, not stated. Of the first, 36 recovered, 26 died, or one in $2\frac{5}{13}$; of the second, 29 recovered, 12 died, or one in $3\frac{5}{12}$ cases.

"7. The cause of death in the 59 fatal cases is recorded as follows: From hemorrhage, 12; peritonitis, 12; exhaustion, 3; shock of operation, 2; inflammation of mucous coat of large intestines, 1; gangrene of intestines, 1; gangrene of peritoneum, 1; peritonitis and gangrene, 1; diarrhœa and peritonitis, 1; peritonitis and constitutional debility, 1; inflammation of lungs, 1; ileus and phlebitis of lower limbs, 1; a fall during convalescence, 1; causes not stated, 21. Total, 59.

"8. The period of death after the operation in 59 fatal cases is re-

corded as follows: died the 70th day, 1; in six weeks, 2; in 3 weeks, 1; the 17th day, 1; the 15th day, 1; the 14th day, 1; the 10th day, 1; the 9th day, 1; the 7th day, 3; the 6th day, 5; the 5th day, 2; in 3 days, 3; in 74 hours, 1; in 2 days, 1; in 44 hours, 1; in 36 hours, 5; in 32 hours, 1; in 30 hours, 1; in 17 hours, 1; in 12 hours, 2; in 11 hours, 1; in 8 hours, 1; in 6 hours, 1; in 4 hours, 1; immediately, 2; time not stated, 18. Total, 59. The average time of death in 41 cases stated, 8 days.

"9. Of the 17 cases complicated with other important diseases, 7 were manifestly not proper for the operation; and 8 others, instead of 4, ought to have remained unfinished after the abdominal section was made. Throwing the first 7 cases out of the estimate, would leave 172 legitimate cases; and rating the 4 others, that ought to have remained unfinished, according to the mortality of unfinished operations, it would make 123 recoveries and 49 deaths, or one in $3\frac{25}{49}$, or $28\frac{21}{43}$ deaths in 100 cases, which I consider the correct rate of mortality of the operation, as it is represented by my manuscript table.

"10. Under the head of the 8th paragraph, I have stated that death occurred, in one instance, on the 70th day; in two instances, after the expiration of six weeks, and in another case, from a fall during convalescence. Now, I would ask, is it proper to consider the fatal termination in these cases the result of the operation? Or rather, ought they not to be considered as having recovered from the *operation*, and be so reported? If so, then the fairest estimate would be, (after throwing out the 7 cases referred to), 127 recoveries, and 45 deaths; or one in $3\frac{37}{45}$, or $26\frac{7}{43}$ deaths in 100 cases.

"11. The rate of mortality has very much diminished since the publication of my table in 1845. Then, there was one death in every $2\frac{25}{38}$ cases of gastrotomy, or 37.62 deaths in every 100 cases. Since the publication of that table, 78 cases have occurred, in which there was one death in every $3\frac{5}{7}$ cases, or 26.92 deaths in every 100 cases—a diminution of nearly 40 per cent. in the rate of mortality.

"12. There has also been a diminution in the proportion of unfinished operations, and in no case since has the abdomen been opened for the purpose of removing a tumor when no tumor could be found. It should also be observed, that several of the more recent unfinished operations have been of an exploratory character. Hence, diagnosis has also improved."

Mr. S. Lee has given 114 cases in which ovariotomy were performed up to 1846, of which number 74 cases have recovered, and 40 died, or nearly one in 3. "Of these 114 operations, in 24, or rather less than one in 5, the operation was obliged to be abandoned, either from extent of adhesions, from the tumor being a uterine or omental one, or from there being no tumor at all; proving, most indisputably, the difficulties of the diagnosis. In 90 cases, when the tumor was removed, nearly one died to three recoveries." Adhesions existed in 46 of 81 cases, and in such cases the mortality was one in $2\frac{1}{4}$, whilst in

other cases it was one in three. When death takes place in consequence of the operation, it is very rapid. Of 30 patients where tumor is mentioned, 14 died within 36 hours, and 25 within a week. The character of the disease seems to influence the mortality. In the cases of hard tumor of the ovary, the mortality was more than one-half; whereas, when the tumor was composed partly of fluid and partly of solid matter, it was less than one in 3. The mortality, when the large incision was made, was one in $2\frac{1}{2}$; but when the smaller, one in 6.*

365. With these facts before us, and also the results of tapping, we must endeavour to come to a conclusion as to whether the operation is justifiable or not. After a careful scrutiny of each case, I quite agree with Mr. Safford Lee, that "in the majority of cases which come under our notice, it is my opinion that the operation of ovariotomy is unjustifiable."

"I think that the operation is unjustifiable *when the diagnosis is not clearly ascertained.* The diagnosis in these cases is very difficult, and perhaps in some hardly to be given with certainty; then, may I ask, ought surgeons to operate in such?"

"Another reason against the performance of this operation is the existence of adhesions." The mortality, we know, is much greater, and it is by no means easy to ascertain their extent during life.

Again, the general condition of the patient, the existence of organic disease, &c. will often prohibit the performance of so serious an operation.

On the other hand, bearing in mind that the ovarian disease must end fatally, and is but little influenced by medicine, and moreover, that after the other operation for its relief - tapping—nearly one-half die after the first attempt, we may conclude from the results of ovariotomy, that "in some cases the operation is very justifiable. It is in those cases of encysted tumor which have enlarged to such an extent as to demand active interference, or when a unilocular cyst which had been under treatment some time is becoming multilocular, by the addition of secondary and tertiary cysts upon its inner surface, that the operation ought to be performed. In such cases, if the diagnosis be correct, if adhesions are absent after the symptoms already noticed have been intelligently inquired of, and the health of the patient be good, the surgeon is bound to give to his patient the last aid of his art, and remove a tumor which, if allowed to remain, tends to destruction. He should, however, first carefully and honestly lay before his patient the danger she has to undergo; he should inspire her with confidence by the relation of successful cases, but he should also inform her of those less fortunate. By this means he will acquire a confidence which he

* On Tumors of the Uterus, &c. p. 210, and Appen. p. 264.

will find very useful in his after treatment, and upon which may depend the result of the operation. We find that when the tumor is cystic, the mortality is as one death to six recoveries; and this speaks very favourably for such an operation. The cysts should be single, and uncomplicated with hard matter, and the powers of life active. In such cases, if the operator be skilful, and the after treatment carefully attended to, a successful result may be anticipated."*

366. As the diagnosis of these tumors is of prime importance, I may be allowed to make one or two additional remarks upon the subject.

1. The abdominal muscles appear to acquire the power of involuntarily assuming the form and appearance, and of communicating the sensation of a tumor. In some cases it seems as if the result of the form given to them by a former pregnancy. Against this deception we can in a great measure guard ourselves, by prolonging our abdominal manipulation, and calling the muscles into action by leading the patient to converse. Percussion will also aid us in coming to a right conclusion, and if we make an examination per vaginam and per rectum, there will be but little doubt remaining. And I would observe that an examination per rectum is most valuable, in all cases of real or supposed ovarian disease.

2. In the majority of cases the continuity of the tumour, ascertained by the perception with a finger on the os uteri of a shock impressed upon the abdomen, is nearly decisive of a tumor being uterine; and the very feeble or absent impression of such shock, of its being ovarian. The exceptions are mainly those cases where adhesions have taken place, uniting the pelvic viscera closely together. Dr. Simpson's sound may be advantageously used for this purpose. It is to be introduced into the uterus, and then, by turning it one way, and pressing the tumor the other, it is quite possible to establish a distinction between the uterus and ovary in cases of ovarian disease. Or it might be possible that the direction taken by the sound would indicate the same fact.

Again, a careful examination per rectum and per vaginam will very often, even where the tumor is adherent, prove that there are two tumors; and their different density, or the comparative vividness of shocks communicated from the abdominal tumour, may justify the inference that one is the uterus and the other the ovary.

Lastly, the history of the disease may throw some light upon its nature. Uterine tumors are *generally* of slower growth, of smaller size, more dense to the touch, seldom attacked by inflammation, and rarely painful; and although none of these circumstances are conclusive alone, they may be very decisive in conjunction with other signs.

3. It may not be very difficult to come to a conclusion as to the existence of adhesions, though far from easy to estimate their extent.

* On Tumors of the Uterus, &c. p. 215.

The mobility of the tumor, if it do not fill the entire abdomen, and the mobility of the integuments upon the tumor, will generally decide the question; but when the disease attains an enormous volume, we can do little more than form a conjecture. There is a sort of rolling feel when a tolerably free ovarian tumor is moved, and a crepitus when adhesion has occurred, which are not easily mistaken; and a change of posture may afford additional information.*

4. It is, of course, almost impossible to estimate the vascularity of an abdominal tumor. Occasionally we may distinguish with the finger the pulsation of an artery, and more than once I have ascertained the fact with the stethoscope. A careful examination should always be made with this instrument.

367. There are some conditions which are necessary to render the success of the operation even probable.

1. The patient must be in good health, for she is exposed to two great dangers—sinking and inflammation; and if her constitution be previously impaired, it would be needless to make the attempt.

2. There ought to be no adhesions between the enlarged ovary and the surface with which it is in contact. Mr. Jeafferson "considers it a 'sine quâ non,' that the operation should be performed before adhesion takes place between the sac and adjacent viscera." It is clear that with such adhesions the operation might prove abortive: but it is not always easy to ascertain whether they exist or not, previous to operating. "Adhesions of the cyst to the abdominal coverings are, I believe, frequently indicated by soreness felt after moving the abdominal coverings over the cyst, and by a sort of crepitus, sometimes very distinct, arising probably from ruptured adhesive fibres." This crepitus is indicative of inflammation in serous membranes generally: it is present in certain stages of pleuritis, pericarditis, and peritonitis, and therefore is a sign of value in the present question.

3. The base of the tumor must not be too large, or the wound will be so extensive as to place the patient in danger.

4. It should not be attempted when scirrhus is combined with the dropsy, because there is every probability of the disease not being thoroughly removed, and because the constitution of the patient will have been contaminated by the malignant disease, and so be rendered less able to bear the operation.

368. As to the mode of operating—some prefer making a short incision through the abdominal parietes, evacuating the fluid, and then drawing the sac through the opening, apply a ligature round the root. Others make a large incision, 9 or 10 inches long, at once, and then apply the ligature, and remove the tumor entire. The mortality of the major operation is much greater than that of the minor, and

* See a valuable notice on the Diagnosis of Ovarian Dropsy, by Mr. Brown, in Ranking's Abstract, vol. ii. p. 171.

therefore it appears to me, that it is better to commence with the small incision, and, if necessary, afterwards enlarge it. The great advantage of this plan appears to be, that after making the incision (in some sort an exploratory one), if the sac, after being emptied, can be drawn out, we escape with the slighter risk; if there be obstacles, owing to solid matter, it can be enlarged without difficulty; and if these obstacles be such as to deter us from completing the operation, we can recede with much less danger to the patient; and this I think of vast importance, considering the present uncertainty of our diagnosis.

When the tumor is removed, the wound must be carefully closed by sutures and adhesive plaster. Over the wound the water dressing may be applied, and the utmost care and vigilance will be necessary to guard against collapse in the first instance, and inflammation afterwards.

I may conclude this chapter in the words of a distinguished author, from whom I have largely quoted already:—"Here then are the different modes of treatment recommended in ovarian dropsy; the abstraction of the water, with the cautions before prescribed; the extirpation of the ovary, in the earlier and later periods of its growth; the removal of a circular piece of the cyst, so as to lay open the cyst into the peritoneum; and the prevention of the dilatation and growth, by early paracentesis. In the present ill success of our practice, all these operations are well worth your consideration; and if you can bring one of them to such perfection as to cure some of the unhappy individuals who now fall victims to the disease, you will, indeed, be conferring an invaluable good on the fairest and least offending part of our species."*

CHAPTER III.

TUMORS (NOT MALIGNANT) OF THE OVARIES.†

369. Fibrous tumors are found attached to, or embedded in, the substance of the ovaries, as well as in the uterus, though they are far less analogous in structure with the former than with the latter. They are often coincident in both organs at the same time.

* Blundell on Diseases of Women, p. 120.
† Sentin, Bull. Med. Belge, Nov. 1839, p. 307.

In structure they are perfectly identical with those found in the uterus; so that, as Cruveilhier* remarks, it is quite impossible to tell, by the most acurate anatomical examination, to which of the organs they have belonged.

If cut into, they exhibit the same dense fibrous tissue, traversed irregularly in every direction by white shining lines.

Dr. Baillie has described them very graphically: "The ovarium is much enlarged in size, and consists of a very solid substance, intersected by membranes which run in various directions. It resembles in its texture the tumors which grow from the outside of the uterus, and I believe has very little tendency to inflame or suppurate."

They undergo also similar transformations into a cartilaginous and osseous structure, to a greater or less extent. In some we find only patches of cartilage, or spiculæ of calcareous matter; but cases are on record, of the greater part of the tumor being of a bony substance.†

We may sometimes observe patches upon the surface of the ovary, of a cartilaginous or osseous density, owing to a morbid alteration of the proper fibrous tunic of the ovary beneath the peritoneum.

The size of the tumors varies much; Cruveilheir says, from a few drachms to 30 or 40lbs.; but Boivin and Duges are inclined to refer these larger tumors to the class of scirrhus.‡ There can be no doubt, however, that their increase is very gradual, much more so than any other morbid product of the ovary.

370. In addition to tumors of a fibrous texture, we find others in the ovary, consisting of tuberculous matter;§ or of a darker substance, which is termed melanosis.||

But, "scrofulous and tubercular disease of the ovary is very rarely met with. It is the least common of all the morbid alterations of structure to which the human ovaria are liable."¶

* "The ovaries have been converted into hard, cartilaginous tumors, and some have occurred filled with fluid materials. The ovarium is sometimes the seat of the sub-cartilaginous tumor; but so seldom, that I do not recollect to have seen more than one instance of it. The tumor was not larger than a hazel-nut, and was surrounded by the proper tunic of the ovarium."—*Hooper's Morbid Anat. of the Human Uterus*, pp. 12, 13.

† Kluiskens, Annales de litt. Med. etrang. tom. ix. p. 336. Saviard's Observ. Chir. Schlenkes. Haller, Disp. Morb. vol. vi. p. 419.

‡ Diseases of the Uterus, &c. p. 478.

§ Boivin and Dugès, Dis. of the Uterus, &c. p. 478. Atlas, pl. 16.

|| Ibid. p. 485, *case*. Atlas, pl. 33, 37.

¶ Dr. Robert Lee, Cyclop. of Pract. Med.; art. Diseases of the Ovaria.

371. *Causes.*—These growths have been attributed to various causes; such as peculiarity of constitution, blows, falls, &c.; but in most cases we shall find it difficult, if not impossible, to trace the connexion.

372. *Symptoms.*—As these tumors do not degenerate into malignant disease, though they are sometimes concomitant with it, and as they are but rarely attacked by inflammation, they give rise to none but mechanical symptoms. While they remain in the cavity of the pelvis, they may press upon the neck of the bladder or upon the rectum, and occasion much trouble by impeding the evacuation of their contents. Numbness of one thigh and leg, and even œdema, may also result from the pressure upon the nerves and vessels.

If conception should take place without the elevation of the tumor, serious impediment may be offered to the passage of the child through the pelvis, necessitating either the removal of the tumor, (which is almost impossible) or if it be large, the perforation of the child's head.

When it is above the brim of the pelvis, it occasions no annoyance, nor does it interfere with the duration of the patient's life.

373. *Diagnosis.*—An examination 'per rectum' will convince us that the tumor (if it be not large) is in the ovary, and so distinguish it from a *fibrous tumor* of the uterus; besides, the elevation of the os uteri does not correspond with the results of abdominal manipulation.

From *scirrhous or cancerous tumor of the ovary* it will be distinguished by the good state of health of the patient, by the freedom from pain, and by its equal density.

374. *Treatment.*—We must apply ourselves to relieve the mechanical inconvenience, by catheterism and enemata, whilst the tumor is in the pelvis; and in some cases we can afford complete relief by pushing it up beyond the brim of the pelvis.

When in the cavity of the abdomen, no treatment will be necessary, unless in those very rare cases where the tumor is attacked by inflammation, and which will require the employment of antiphlogistics.

CHAPTER IV.

MALIGNANT DISEASE OF THE OVARIES.

375. SCIRRHUS, cancer, or fungus hematodes, is unquestionably the most serious disease to which the ovaries are exposed, and it is by no means very uncommon.* It is more frequent than cancer of the breasts, and nearly as much so as cancer of the uterus.

It does not appear so much confined to advanced age as the last-named disease. Boivin and Dugès† say that it is most frequent during the middle period of female life; and Dr. Carswell found an ovarian tumor of a malignant character, as large as the gravid uterus, in the body of a female under twenty years of age.‡

There are at least two species of malignant disease observed in the ovary; one resembling *true scirrhus* before any softening has taken place, and the other analogous to *fungus hematodes* or *cerebriform* matter.

"Cancer may be developed in the ovaries, and run through all its stages. Occasionally it is hard and scirrhous, acquiring double or triple its ordinary volume; in others it is a state of latent suppuration, terminating by ulceration. There form in the neighbourhood dilatation of the veins, and a deposition of cartilaginous and osseous substance."§

"Of the two forms of disorganization mentioned it is, I apprehend, the *tuberose* which most frequently attacks the ovary; and therefore, when this viscus is enlarged, frequently it is the bump or tuberose surface which characterises the disease. Sometimes, however, the scirrhous change is of the *diffused* kind, the whole mass of the ovary enlarging, and the surface remaining equable and smooth. The rapidity, also, with which the enlargement takes place, is liable to much variety; though if the disorganized ovary be composed of solid materials only, without dropsy, the growth will, I believe, be generally slow; it will certainly occupy months, and more frequently years."‖

376. The two forms, moreover, may co-exist, and they may either be primary or consecutive to a similar disease of the uterus.

1. *Scirrhus.* This tumor is hard, and pretty nearly homogeneous. Its surface is uneven and tuberose, and when cut into it presents the

* Coley, Ed. Med. and Surg. Journal, vol. vi. p. 50. Denman's Midwifery, p. 85. Campbell's Midwifery, p. 476.

† Diseases of the Uterus, &c. p. 484.

‡ Lee, Cyclop. of Pract. Med.; art. Diseases of Ovaria.

§ Nauche, Mal. prop. aux Femmes, vol. ii. p. 623.

‖ Blundell on Diseases of Women, p. 96.

appearances which were described when treating of cancer uteri, and which, therefore, I need not repeat.

It may remain some time in its hard state, but ultimately central softening will take place.

Dr. Baillie saw a case where softening had commenced, and the preparation is in the museum of the College of Physicians, London. The disease of the ovary was coincident with cancer of the stomach.

2. *Fungus hematodes or encephaloid.** The structure of this tumor is more varied than that of scirrhus, a part being often fibrous, cartilaginous, or calcareous, and the remainder fungus or brain-like, or with colored fluid contained in cells.

Dr. Seymour has described two varieties. The first consists "of numerous cysts, with more or less fluid contents; sometimes with bony or earthy matter contained in them; often a fatty secretion resembling lard; sometimes penetrated with long fine hair, without bulbs; but more frequently filled with albuminous secretion of varying tenacity and color. Sometimes these secretions resemble gruel in appearance; there is often matter like soot mixed with the fluid. At other times the secretion is of the color of mahogany, from admixture of blood; and not unfrequently the liquor evacuated from one of these cysts by the trocar, resembles in consistence and color the medicine well known under the name of Griffith's mixture.

"Secondly, a single large cyst springs from the ovarium, and contains within it tumors varying from the size of a pin's head to that of an orange. Sometimes the great portion of the parietes of the cyst consists of tumors, growing between the external and internal or secreting coat; the interior of the cyst having the tumors projected into it, being filled with fluid secreted from the serous lining. The tumors when cut into present a semi-fluid gelatinous substance, with white bands running through it, between which bands are smaller cysts containing the same viscid, glue-like matter."†

Andral observes: "Sometimes these masses are formed of fibrous, cartilaginous, or osseous tissue; in other cases they are almost entirely composed of encephaloid matter. The walls of the cysts are thick, and their cavities gradually enlarge until a tumor is formed, which fills not only the epigastrium, but the whole abdominal cavity. The outer surface of the tumor is unequal; in some points a fluctuation can be felt, while in others it has a hardness and density equal to bone."‡

"Sometimes the ovarium is affected with encephaloid disease, or is converted into a large irregular-shaped mass of cysts and tumors, the section of which presents all the characters of hematoid fungus.

* See Seymour's Illustrations, pl. 12, 13, 14; pp. 66, 70, 74.

† On Diseases of the Ovaria, p. 60.

‡ Precis. d'Anat. Pathol. vol. iii p. 708.

This fatal affection usually runs its course with great rapidity, and soon after its commencement the constitution of the patient is much more affected than in the organic diseases of the ovaria which have already been described."*

Cephaloma "is not often found in the ovarium. I have seen onl one instance of it. In this, the whole of the uterus was a cephaloma; the ovarium about twice its natural size, and cephalomatous."†

If blood be effused, the tumor will answer to the description of hæmatoma given by Dr. Hooper. "Hæmatoma of the ovarium is of very rare occurrence. The drawing I have given of one (pl. 9,) is, however, a very fine example of it. I have seen only two others, which were not so large; and I am disposed to think that when hæmatoma takes place in this organ, the ovarium soon after becomes hygromatous; and that as the cells enlarge, they compress and stop the fungus growth; for masses of flesh, mostly spongy, and of a mixed character, are frequently found in and about ovarian sacs."

In the case related by Cruveilhier, it was identical in structure with a coincident cancer in the stomach.

The tumor varies in size, being generally, however, larger than in pure scirrhus; in some cases it is very large,‡ and of course as it increases, the cavities dilate, so that some fluctuation can be detected. The parietes vary very much in thickness.

The rapidity with which it increases, is much greater in this than in the former variety.

Either species may exist in a quiescent state for some time, or may be attacked by inflammation, abscess, or dropsy. As a consequence of inflammation, the diseased organ may contract adhesions, which may seriously affect the comfort of the patient, and the progress of the disease. If this take place whilst the tumor is in the pelvis, it

* Lee, Cyclop. of Pract. Med.; art. Diseases of the Ovaria.

† Hooper's Morbid Anatomy of the Human Uterus, p. 16.

‡ "In plate 39 of the Atlas, there is a figure of one of the ovaria considerably enlarged, the substance of which was lardaceous, though beset with small granulated cysts, and surrounded with vesicles of a larger size, and filled with fluid; whilst the other ovarium was of a cartilaginous consistence, resisting the scalpel, and presenting numerous roughnesses. A tumor was seen by Dr. Velter (Acad. de Med. 12th July, 1825,) weighing 56 pounds, and of a consistence almost cartilaginous: in three parts, however, it was softened, and resembled the substance of the brain. The encephaloid substance was more distinctly characterised in a case of enormous cancer, of 75 pounds weight, which occupied the left ovarium; it contained within a fibrous, fleshy mass, and a fatty tissue."—*Boivin and Duges, Diseases of the Uterus, &c.* p. 479.

cannot rise above the brim, and the mechanical symptoms will increase.

The deposition of cancerous matter in the ovary is very often accompanied by a similar state of other organs, as the pylorus, lymphatic glands, &c.* Cruveilhier mentions a case where it was coincident with a cancerous state of the stomach;† and such a case occurred to Dr. Baillie, as has already been mentioned.

377. *Causes.*—These are extremely obscure; there may be occasionally some connection with gestation; but as it is found even more frequently in virgins, this cannot be considered as an extensive cause.

It may follow chronic inflammation, according to Boivin and Dugès, though Logger does not admit this.

Capuron‡ attributes it to abortion, or the suppression of the lochia.

It has been known to follow external violence—such as a fall, a blow, &c.

378. *Symptoms.*—If the disease be confined to one ovary, menstruation may continue regularly, but it will be suppressed if both organs are involved.

Instances are on record of conception having taken place after the development of malignant disease in one ovary; and in such cases, danger may be incurred during delivery, if the enlarged viscus have not ascended into the abdomen.§

As I have already observed in the case of other ovarian tumors, the symptoms differ much, according as they occupy the pelvis or the abdomen.

In the former case they are chiefly mechanical, and arise from the pressure exercised upon the rectum and neck of the bladder, with a numbness along the limbs from pressure upon the nerves.

But few symptoms originate in the state of the tumor itself, until it rises into the abdomen, or until softening takes place, unless, indeed, it be previously attacked by inflammation: the symptoms will then assume an acute character. After this period it is undoubtedly true, as Dr. Seymour observes, "that these diseases frequently lead to a rapidly fatal termination, and are accompanied by that extreme sense of debility, and bloodless appearance of the body, so characteristic of malignant disease."‖ Again: "The malignant form of the disease may be recognized, during life, by the want of nutrition, the broken health of the patient, the uneasiness and rapid growth of the

* Seymour on Diseases of the Ovaria, p. 61. Case, p. 76.
† Anat. Path. 5me livr.
‡ Mal. des Femmes, p. 164.
§ See Mr. Howlett's case, Med. Chir. Trans. vol. xvii.
‖ On Diseases of the Ovaria, pr 62.

tumor, the simultaneous enlargement of glands in other parts of the body, and the occasional occurrence of lancinating pains in the parts. The latter symptom is not constant. The pulse is quick and feeble, and as the disease proceeds, there is hectic fever, and often aphthæ in the mouth, with an inexpressible sense of debility."*

The vicinity of the diseased mass may give rise to increased action in the peritoneal membrane, and effusion into the abdominal cavity.

The interval which elapses before the development of the constitutional symptoms varies very much; but sooner or later fever sets in, with thirst, quick pulse, wasting, &c. and ultimately carries off the patient, unless an earlier termination be occasioned by softening of the tumor, and evacuation of its contents into the peritoneum.

The following cases illustrate the course of the disease perfectly.

"Mad. B., small and thin, yet of general good health, had a return of the uterine discharge in her 72nd year. This discharge was one day so abundant as to induce syncope and extreme debility. I was consulted in Dec. 1831, and discovered, on examination, that the cause of the hæmorrhages was not, properly speaking, in the uterus, but in its vicinity; between that organ and the bladder there was a very voluminous, hard, indolent tumor, which pushed the uterus backwards, compressed and irritated it: this was, doubtless, the cause of the hæmorrhage. The uterus was rather tender, and its cervix widely open. The tumor could be felt, and its progress traced above, or rather behind, the pubes. Eighteen months afterwards the patient complained of pains in the abdomen, dyspepsia, &c. On a second examination, I discovered that the tumor was no longer in the pelvis, but entirely in the abdomen, on a level with the umbilicus, and near the right iliac fossa; it appeared to be at least as large as the fœtal head, and of a globular form. I considered these changes favorable, as the uterus was less irritated than before, and the hæmorrhages were less frequent, and in smaller quantities; but in other respects I was disappointed, for the tumor, which had so increased in volume, and changed in form as to rise above the brim, caused uneasiness to the other abdominal viscera: the abdomen rapidly became more tender and tumified, the legs swelled, the strength diminished, &c. Dr. Caisso observed there was ascites, produced by the scirrhous congestion of the right ovarium: I thought it yet possible to check the progress of the chronic peritonitis with which it was evidently complicated, as was proved by fever, thirst, and tenderness of the abdomen. The advanced age of the patient forbad the use of powerful antiphlogistics; we therefore prescribed the hip bath, cataplasms, enemata, and a reduced diet. This treatment only arrested for a short time the fatal termination of the disease."†

* Boivin and Dugès, Diseases of the Uterus, &c. p. 484.

† Ibid. p. 63.

About five years ago we examined, with Dr. Merriman and Mr. Prout, the body of a woman about 30 pears of age, who had died from malignant disease of the right ovarium a few days after parturition. In the fourth month of pregnancy she began to suffer from a constant sense of uneasiness in the hypogastrium, and irritability of the stomach; the countenance became sallow, and the constitutional powers greatly reduced. The abdomen not long after began rapidly to enlarge, and before the end of the seventh month, it had attained the size it usually acquires at the full period of pregnancy. An enormous cyst, which contained a dark-colored gelatinous fluid, was found on dissection adhering to the right ovarium, and within this cyst were observed a number of tumors of different sizes and shades of color, which when opened presented the true encephaloid or hematoid fungus character."*

The softened substance has been known to escape through the opening into the intestines, bladder, vagina, &c.

A *vaginal* examination will detect the enlarged ovary so long as it remains in the pelvis, and afterwards abdominal manipulation will generally clear away the chief difficulty: we may either find the tumor above the brim in one of the iliac fossæ, about the size of a fœtal head, or occupying the lower portion of the abdomen, but inclining rather to one side. Its surface is felt to be tuberose, and its structure dense and unyielding. The upper part of the abdomen, on the contrary, will be soft, and occupied by the intestines.

379. *Diagnosis.*--It will not do to rely too strongly upon the presence of a tumor near one ilium, as that may arise from a collection of fœcal matter in the cæcum:† so long as the tumor is quiescent, it will be difficult to distinguish between one that is malignant in its nature and one that is not.

1. From *ovarian dropsy*, both scirrhus and encephaloid may be distinguished by their greater hardness and compactness, by the absence of fluctuation generally, and by their lobulated tuberose surface.

2. From *pregnancy*, by the hard lobulated surface, and by the absence of the audible signs of pregnancy.

3. *From fibrous tumors of the uterus*, by the greater size which

* Lee, Cyclop. of Pract. Med.; art. Diseases of the Ovaria.

† "We have met with the case of a young person, habitually constipated, so as to occasion heat and pain in the large intestines; a physician declared that one of the ovaria was enlarged, in consequence of a tumor which was felt on examination; this tumor disappeared and reappeared alternately—events probably owing to fæcal masses accumulated in the cæcum, and then passed further down in the intestines, or evacuated."—*Boivin and Duges, Diseases of the Uterus, &c.* p. 481.

malignant tumors generally attain; by their not being pediculated, but more moveable, at least during the early stages; and in an advanced stage, by the lancinating pain, and constitutional distress.

4. It has been mistaken for *disease of the spleen*, when very large, but an investigation of the history of the case, with careful abdominal manipulation, and an examination *per vaginam*, will clear up all doubt.

5. The distinction between the *two forms of malignant disease* may in some cases be desirable, for inasmuch as one is the early, and the other the more advanced stage, the patient's prospects of life are longer with scirrhus than with fungoid disease. Now these are the chief differences. Scirrhus is of a slow growth, giving rise to mechanical symptoms, and perhaps to a disturbance or irregularity of the catamenia, but to no pain or constitutional suffering. Encephaloid disease or fungus hematodes on the contrary, increases rather rapidly, is more painful and tender, gives rise to fever, emaciation, and other constitutional symptoms.

Dr. Seymour observes very justly, that the co-existence of fungoid or cancerous disease of the breast, pylorus, or cervix uteri, will elucidate completely the nature of the ovarian affection.

380. *Treatment.*—If the tumor occasion distress in the pelvis, we may (as I have observed) obtain some relief by pushing it above the brim.

Active medicines are exceedingly injurious, as they rouse into action parts which it is our object to keep quiet. Iodine has been tried, but it is rather from its general effects than from its success in this disease that a further trial is recommended.

Dr. Seymour remarks of this medicine: "Many cases have been published of its success, where too short a time has elapsed since the apparent diminution of the tumor to allow of any accurate conclusion being drawn; and on the whole, I am inclined to think that its efficacy has been greatly overrated. Iodine is an active stimulant, and appears to me only applicable in those diseases of the ovarium, or such states of them, as are unaccompanied by inflammation."

In truth, we possess no power of controlling the disease: all we can do in the advanced stage, is to avoid all irritating causes, and to afford relief from the pain by narcotics.

As for excision, which has been proposed, it could never be advisable, for at the advanced period at which alone so formidable an operation would be justifiable, the patient's whole constitution is contaminated by the cancerous diathesis.

CHAPTER V.

DISPLACEMENTS OF THE OVARY.(*)

381. The displacements to which the ovary is obnoxious are not generally of much consequence, the more frequent kind being merely accompaniments or consequences of disease or displacement of the uterus, and so surpassed by a greater evil; and the more serious ones being ordinarily congenital.

382. We may divide them into two classes: those in which the ovary remains within the pelvic cavity, and those where it escapes externally.

1. Any change which augments the weight of the organ will depress it below its natural level in the pelvis; such, for instance, as congestion, encysted dropsy, hydatids or tumors of the ovarium; and, on the other hand, if the bulk of these adventitious deposits be much augmented, so as to raise the organ from the pelvis into the cavity of the abdomen, then the ovary will be elevated above its natural level. This is the case also in pregnancy.

The symptoms of the former are merely mechanical, and have been already described. They disappear when the tumor rises above the brim of the pelvis, and this mitigation we may often obtain by art.

A different class of secondary displacements results from deviations from the normal situation of the uterus. Anteversion and retroversion both disturb the natural situation of the ovary, but this is much more remarkable in prolapse and inversion of the womb. In the latter case, they often fall into the sac formed by the inverted organ.

I have already said that these are generally temporary displacements, but occasionally, whilst displaced, the ovaria form adhesions to the neighbouring viscera, and so are retained permanently in their abnormal situation.†

All the treatment which can be adopted in these cases (when any is necessary), has already been fully described when considering the several diseases which act as causes.

2. When the ovary escapes out of the pelvis, it forms a proper hernia of the organ. It is not of very frequent occurrence. The ovary may be displaced in hernia of the uterus, or it may form a hernia itself, alone, or with its fallopian tube, and sometimes a portion of intestine. It may be either healthy or diseased, but there is generally

* The reader is referred to the excellent 'Memoir' of M. Deneux on the Displacements of the Ovary.

† Cruveilhier, Nouv. Dict. de Méd. et de Chir. prat.; art. Ovaire

some congestion. It has escaped through the umbilical ring,* through the ischiatic notch,† through the crural arch, but more frequently than all through one or both inguinal rings. Deneux considers the latter cases as always congenital, and Cruveilhier has seen it very often in old women.

The following is Mr. Pott's case:—

"A healthy young woman of twenty-three years of age was taken into Bartholomew's Hospital, on account of two small swellings, one in each groin, which for some months had been so painful that she could not do her work as a servant. The tumors were perfectly free from inflammation, were soft, unequal in their surface, very moveable, and lay just on the outside of the tendinous opening in each of the oblique muscles, through which they seemed to have passed. The woman was in full health, large breasted, stout, and menstruated regularly; had no obstruction to the discharge per anum, nor any complaint but what arose from the uneasiness these tumors gave her, when she stooped or moved so as to press them. She was the patient of Mr. Nourse. He let her blood, and took all possible pains to return the parts through the openings, through which they had clearly passed out. He found all his attempts fruitless, as did also Mr. Sainthill and myself; and the woman being incapacitated from getting her bread, and desirous to submit to any thing for relief, it was agreed to remove them. The skin and adipose membrane being divided, a fine membranous bag came into view, in which was a body so exactly resembling a human ovarium, that it was impossible to take it for any thing else. A ligature was made on it, close to the tendon, and it was cut off. The same operation was done on the other side, and the appearance, both at the time of operating and in the examination of the parts removed, was exactly the same. The young woman has enjoyed good health ever since, but is become thinner and apparently more muscular; her breasts, which were large, are gone; nor has she ever menstruated since the operation, which is now some years."‡

Occasionally, the ovary descends into one of the labia majora, and bears a strong resemblance to the testicle in the scrotum.

Lastly, the ovary has escaped through an opening into an abscess of the abdominal parietes.

Sometimes ovarian inguinal hernia gives rise to considerable distress; the patient complains of pain and a dragging sensation, increased much upon walking.

If we examine about the inguinal ring, we shall find a small tumor underneath the skin, like a gland, which does not give rise to any

* Portal, Anat. Med. vol. v. p. 556.

† Camper de Pelvi, lib. 2, cap. 2, p. 17.

‡ Pott's Works, 3rd Ed. vol. v. p. 184.

change of color in the skin. When touched, the pain is much worse, and seems prolonged to the uterus.

It is rarely reducible.

383. "The *diagnosis* of this affection will probably be indistinct, particularly in cases of tumefaction, inflammation, morbid structure, and adhesion. The ovarium retaining its usual form, consistence, volume, and mobility, and situated in front of the inguinal ring, would, on the contrary, be with difficulty mistaken in the present day, especially in thin persons. Congestion of the inguinal glands never occurs in this situation, but rather towards the middle of the groin; and the glands sooner become fixed. Ovarian hernia is characterized and distinguished from enterocele and epiplocele, by draggings in the hypogastrium and loins, when the patient moves; and by the absence of borborygmi, colic pains, and draggings of the stomach. According to Lassus, one of the most distinctive signs is the correspondence of the movements impressed upon the uterus, by the finger introduced into the vagina or rectum, with those which are felt in the tumor itself by the patient or the practitioner."*

Perhaps some assistance might be derived from the monthly increase of the tumor, arising from the enlargement which we know takes place in the ovaries at each catamenial period.

384. *Treatment.*—An attempt of course must be made to reduce the hernia, though it will often fail. If so, and if there be symptoms of strangulation, we must have recourse to the operation for strangulated hernia, and after relieving the stricture we may return the ovary into the abdomen, and apply a compress and bandage,† or content ourselves with the relief of the strangulation, without interfering with the displacement.

In irreducible cases, we have still the power of removing the ovary altogether, as was done by Mr. Pott.

* Boivin and Dugès, Diseases of the Uterus, &c. p. 454.

† Nauche, Mal. prop. aux Femmes, vol. i. p. 127.

BOOK II.

DISEASES OF PREGNANCY.

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385. The investigation of the disorders and diseases of pregnancy upon which we are about to enter, will be much facilitated if we first consider, very briefly, some of the local changes and constitutional sympathies which are the result of conception and utero-gestation: to which may be added some general instructions as to the management of pregnant females.

CHAPTER I.

ON THE LOCAL AND CONSTITUTIONAL CONSEQUENCES OF PREGNANCY.

386. "It is a popular observation," says Dr. Denman, "that those women are less subject to abortion, and ultimately far better, who have such symptoms as generally attend pregnancy, than those who are exempt from them. The state of pregnancy is then an *altered*, but cannot with propriety be termed a *morbid* state. But if the term *disease* be used on this occasion, with the intention of giving a more intelligible explanation of the temporary complaints to which women are then liable, or to denote their irregularity, or an excessive degree of them, it may be retained."*

Pregnancy, then, may be considered as a strictly physiological state, but as one bordering so closely upon the pathological, that it is sometimes difficult to point out the boundary between them; and not unfrequently this boundary is palpably transgressed in several organs or their functions.

In the present chapter, the changes which are induced by gestation, considered as an "altered" but not "morbid" process, will be enumerated, in order that we may more distinctly appreciate the diseased actions which occasionally require our interference. For this purpose, let us first glance at the anatomical changes which occur in the uterus, ovaries, fallopian tubes, &c.

387. The structure of the *uterus*, in its quiescent state so close and

Introduction to Midwifery, p. 144, 7th Ed.

firm, becomes loosened; its interlacing fibres being separated, numerous interspaces are left, some of them of very considerable size, and mainly occupied by the enlarged vessels and nerves. Some authors affirm, and I believe with truth, that an addition of new matter takes place in the substance of the womb during gestation, and thus point out, as a proof, the immensely increased size of the womb and the augmented thickness of its parietes. Others deny this supposed addition or hypertrophy, and explain the apparently increased substance, and actually increased bulk of the uterus, by referring to the greater laxity of its tissue during pregnancy.

An equally remarkable change takes place in the *vessels* of the uterus. Before conception, just so many transmitted red blood and were visible, as sufficed for its nutrition and for its periodical secretion: but, during pregnancy, these vessels increase to many times their original size; and vessels into which red blood had never previously penetrated, now enlarge, and carry red blood for the nutrition of the fœtus. The intervals between the uterine fibres are occupied by the enlarged vessels, which, from their magnitude at the part to which the placenta is attached, are called sinuses. This augmentation of the vascular machinery of course implies either a local or general increase of circulating fluid, or both.

The *nerves* supplying the uterus likewise become hypertrophied, according to the researches of Hunter,* Tiedemann,† and Lee,‡ and this is the more remarkable, as it arises not in any degree from distension, (as in the case of the vessels), but is an absolute increase of substance in each nerve.§

* Anatomy of the Gravid Uterus, p. 21.

† Tabulæ et Nervorum Uteri Descriptio, p 10.

‡ On the Nerves of the Uterus.

§ "It is well known that immediately on conception the uterine system becomes endowed with a remarkable increase of vital action, affecting its various constituents, so that it is thrown into a condition which, if not properly inflammatory, we may certainly consider with Baillie, 'a state analogous to inflammation.' Thus there takes place at once a great increase in the vascular supply, directed towards the organ and its appendages—the vessels are gorged and distended with blood—and many of them, previously impervious to its passage, now begin to circulate that fluid freely: the tissue of the organ becomes infiltrated with serum, so that its bulk is increased, its texture softened, and its fibres separated, while upon its internal surface lymph is poured out to line that cavity with the decidua, which partakes largely of the characters of the false membranes, the results of inflammatory action in other situations. And lastly, the nerves of the uterus increasing both in number and size, as William Hunter suspected and Tiedemann has proved, impart to it a more exalted degree of sensibility, which

from their close connection with the great abdominal plexuses, is quickly diffused through the system at large, which is soon found to participate in the excitement emanating from the uterus."

The *lymphatics*, which can scarcely be detected in the virgin uterus, undergo a similar development, and form a remarkable portion of the vascular net-work supplying and surrounding the uterine system. This we find exhibited most plainly in some diseases.

From the moment of conception until nearly the termination of pregnancy, the womb goes on increasing in size; distended itself by the accumulating liquor amnii, it distends in its turn the abdominal parietes almost as much as they will bear, ascending gradually towards the epigastrium in front of and rather below the intestines, which are in a great measure displaced and pushed up by it. The proportional increase has been minutely estimated. "The virgin uterus," observes Dr. Montgomery, "is about two and one-fourth inches long, one and three-fourths broad, and about an inch from back to front, with a cavity which would not more than receive into it the kernel of an almond. According to the calculations of Levret, its superficies may be taken at 16 inches, but at the end of the ninth month of gestation its length is from 12 to 14 inches, its breadth from 9 to 10, and from back to front from 8 to 9 inches; its superficies is now estimated at about 339 inches, and its cavity, which before impregnation was equivalent to about $\frac{1}{4}$ths, or *quam proximè*, three quarters of a cubic inch, will now contain 408; so that its capacity is increased a little more than 519 times, and its solid substance from 4½ to 51 cubic inches, or nearly in the ratio of 12 to 1."*

Conception, and the transmission of the germ, leave the *ovary* which furnished the germ and the corresponding *fallopian tube* considerably more vascular than usual, and in the former is discovered the corpus luteum and the cicatrix of the laceration through which the ovulum escaped.

388. Considering these various and great changes, it cannot be a matter of surprise that irregularities of innervation should occur; that disturbances of the circulation, inflammation, and its products should take place; or that the fibres of the uterus, extricated and endowed with additional sensibility, should manifest irregular action. These vast anatomical changes are concomitant with the development of certain physiological phenomena, of which they may be considered the instruments or agents; and it is by bearing both in mind, and in a sense combining them, that we are able, to some extent, to estimate the predisposition to morbid action.

That the uterus thus endowed with great nervous power and vascular capacity, and becoming the seat and centre of a higher degree of

* Signs of Pregnancy, pp. 2, 3.

irritability, "should take on new actions, some of which may be in excess, is not surprising."* That it should thus assume a new pathological condition we might therefore expect; but this is not all. Dr. Denman observes that "the truth of no observation in medicine has been more generally acknowledged, than that of the extreme irritability of the uterus, and of the propensity which the whole body has to be affected or disturbed by its influence;" and again, Dr. Ashwell, that "the law of sympathy is one of universal prevalence, and the uterus may be fairly considered the great centre of this influence in the female system. We have already seen that the perfect developement of the uterus, or the establishment of that function which capacitates it for conception, is attended by many remarkable consequences, and in pregnancy these effects are not less astonishing: there is scarcely any part or viscus, there is scarcely any action throughout the whole system, which is not influenced in a greater or less degree by impregnation."†

The effect of this sympathy is shown both in the *general state* of the body, and in the altered conditions of *individual organs*.

The general state is said to be one of plethora, and the woman is considered to suffer from a degree of febrile action. This view is supported by the increased vascular machinery, the augmentation of the circulating fluid by the (supposed) effects of the suppressed menstruation;‡ by the buffed state of the blood when drawn during

* Capuron, Traité des Mal. des Femmes, p. 335.

† Practical Treatise on Parturition, p. 161.

‡ "Whereas a woman, when pregnant, becomes suspended as to her menstruation, this circumstance has led to the supposition that there must exist a plethoric condition of the vessels during this state, and consequently, that the *plethora* must be the cause of many of the diseases which present themselves at that period. But if this were the case, the vascular overfulness in question would be likely to affect the constitution much more in the earlier than during the latter months of pregnancy; it being a fact that the fœtus, for which it is supposed the blood is reserved, increases in bulk in the latter months over what it does in the earlier months, in the proportion of five to one. We should therefore conclude that the retained menstrual blood could not be consumed by the fœtus in the earlier months, and that thus it might become productive of a congested state of certain portions of the mother's sanguiferous system; and that in the latter months it might require a more ample supply than could be provided for it by the supposed retention of the menstrual secretion. There are, however, some constitutions in which there would appear to be a greater increase of irritability than of blood."—*Davis's Obstetric Med.* 2d Part, p. 858.

pregnancy in the absence of inflammation, according to Denman,* Burns,† Rasori,‡ Mansell,§ and others; and by the greater frequency of the pulse in pregnant women.‖ Some of these reasons are doubtful

* Introduction to Midwifery, p. 220.

† "Pregnancy produces an effect on the general system marked often by a degree of fever, and always by an altered state of the blood. This state is the consequence of local increased action, induced on the same principle as when an organ is inflamed. There would appear to be likewise a tendency to the formation of more blood than formerly, and the nervous system is often rendered more irritable and sensible. The gravid uterus also has an effect by sympathy on other organs or viscera, and likewise on some of them mechanically, by its bulk and pressure."—*Principles of Midwifery*, p. 246.

‡ Rasori thus concludes the chapter on the subject in question:—"I do not mean to deny the frequency of the buffy coat during pregnancy, but I maintain, in the first place, that it is not so common as is generally supposed; in the second, that it is frequently caused by some obscure inflammatory affection; in the third, that pregnancy, in a greater number of cases, is accompanied by a more or less slight diathesis of stimulus, occasioned either by general plethora, or by an increase of stimulus, which the uterus is of necessity at this period subjected to; in the fourth place, that these and other conditions of pregnancy tend to produce an increase of stimulus, and the consequent increase of circulation and augmentation of heat may cause the fibrine to acquire a firmer consistence than it would possess in a state of health, which, as I have already explained, is the cause of the buffy coat being produced."—*Teoria della Flogosi*, p. 39; quoted from *Lancet* for March 30, 1839, p. 45.

§ "Upon two points connected with the circulation of pregnant women, I attempted some investigations. In the first place, I was anxious to ascertain whether or not physiologists are correct in stating that the blood during gestation uniformly presents a buffed appearance. Every opportunity which presented of examining the blood of healthy pregnant women was accordingly embraced, and although my observations were not sufficiently numerous to warrant me in affirming positively that the circumstance mentioned does not usually take place in health, still I have seen enough to enable me to state that buffing is very far from being a usual occurrence."—*Report of Wellesley Dispensary, Ed. Med. and Surg. Journal*, No. 117.

‖ "It has been already noticed that the state of pregnancy is one of increased vascular action, not only in the great organ primarily affected, but generally throughout the system, by which a disposition is created to certain affections indicative of plethora, and best alleviated by venæsection or other depleting measures."—*Montgomery's Signs and Symptoms of Pregnancy*, p. 9.

as matters of fact; others may be true, but the observations have not been sufficiently numerous to be quite satisfactory, and a third series are established facts. But however hazardous it might be to found any general views of practice upon such statements, there can be no difficulty in appreciating their value in forming our estimate of the predisposition to disease occasioned by gestation.

We have now seen the influence which the anatomical changes in the uterine system, and the general sympathy with the gravid uterus, may possibly have in predisposing to disordered action; it only remains to examine into the effects of the same cause upon individual organs, and upon the mind, and the subject of this chapter will be completed.

389. The different organs of the body may be affected either *mechanically*, or by *sympathetic* (*reflex*) *irritation*, or in both ways at the same time.

The rectum, urethra, and neck of the bladder are subjected to a considerable amount of pressure, whilst the enlarged uterus remains in the cavity of the pelvis; but these hollow organs may be compressed without injury, and therefore we are not very often consulted, unless (from sympathetic irritation) diarrhœa, dysentery, or a very frequent and distressing desire to pass water, be excited. The latter complaint is most frequent about the third or fourth month.

Again, a sensation of weight in the pelvis, of bearing down, or of "falling through," with more or less aching in the back and down the thighs, is a frequent concomitant of pregnancy; and should sudden and violent expulsive force (accidentally or purposely) be employed, flexion or depression of the womb may be the result.

When the uterus rises above the brim of the pelvis, the pressure is removed from the lower portion of the intestinal canal, and transferred to the contents of the abdominal cavity. The uterus lies over, as it were, upon the bladder, diminishing its capacity, and giving rise to a

"The other point related to the state of the pulse during the period of gestation. Among 48 healthy women taken indiscriminately, mostly in the 8th or 9th month of pregnancy, the pulse was, in 32 of them, above 100; in many, 120; and in one, 144. This extraordinary rapidity of course evinces considerable excitement in the circulating system."—*First Rep. of the Wellesley Dispensary, Ed. Med. and Surg. Journal*, No. 117.

M. Hohl's experiments show an increased frequency of pulse, and appear to have been made on a considerable number of persons.—*Die Geburtshülfliche Exploration, &c.* von Dr. Anton. F. Hohl.

It is right to add, that Dr. Guy's observations do not support this view of the increased rapidity of the pulse during pregnancy.—*Guy's Hosp. Reports*, vol. iii. p. 111.

desire to evacuate its contents frequently, or even to incontinence of urine.

Further—"When the uterus has acquired its full growth, it occupies a very large space in the abdominal cavity, pressing both the liver and stomach upwards against the diaphragm, by which the cavity of the chest is diminished, the action of the lungs impeded, and a greater or less degree of dyspnœa induced; while, at the same time, the passage of the bile into the duodenum is interfered with, and slight jaundice makes its appearance; or considerable disorder of the stomach, with very imperfect digestion, renders the patient very uncomfortable."*

More or less influence is produced upon the circulation in the lower extremities, from the impediment offered to the ascending column of blood by the pressure of the lower portion of the uterus, giving rise sometimes to varicose veins, sometimes to œdema.

Another apparent consequence of this pressure is a bluish tint of the mucous membrane of the vagina and vulva, which is proposed by D'Outrepont and Jacquemier as one of the surest tests of pregnancy. In more than one case which I had an opportunity of minutely examining, it was evidently caused by a distended condition of the veins of the part.

Occasionally the skin of the abdomen is painfully stretched, either from its want of elasticity, or from the unusual size of the uterus, or from the intestines being inflated, or from fluid effused into the peritoneal cavity. On the other hand, after repeated childbearing, the relaxation of the abdominal parietes exposes the patient to some inconvenience by its permitting the uterus to fall forwards.

390. The amount of *sympathetic irritation* excited in different organs is generally in proportion to the change which occurs in the organ exciting it: in the present case, in proportion to the difference between the quiescent and impregnated womb, modified by the temperament of the individual.

At a very early period, the peculiar reflex irritation of the stomach is excited, and "morning sickness," as it is called, sets in and continues for a short time. It may continue longer, occur at some other period of the day or night, or recur at a later period of gestation; but it will generally be found that when this earliest symptom of pregnancy deviates from the ordinary course, it is followed by other deviations or inconveniences. It is one of the most marked of the reflex irritations of pregnancy, and is explicable only by the view of the nervous system originated by Dr. Marshall Hall.†

* Montgomery on Signs of Pregnancy, p. 6.

† "When we consider the great connexion which subsists between the uterus and other abdominal viscera, by means both of the sympathetic and spinal nerves, as well as by that more mysterious sympathy

To the same reflex irritation, and to a certain degree of mechanical pressure, we may attribute the constipation or diarrhœa which occur or alternate during the latter months of pregnancy.

391. A very remarkable change takes place in the urine of pregnant women; it contains a principle which I believe was first accurately described by M. Nauche,* and which has since received the name of *kiesteine*. It was supposed by Nauche to be the caseum of the milk secreted during gestation. At present this is merely an hypothesis. It resembles a milky cloudiness through the urine, or a thin whitish pellicle on the top; though this is obscured in proportion as the urine is deep-coloured.

M. Eguisier has given us the result of his observations: "The urine of a pregnant woman, examined in the morning, is generally of a pale, yellow color, slightly milky; it first reddens, and then turns blue the "papier tournesol," as ordinary urine. Exposed to the contact of air, a cloudiness is observed from the first day, resembling fine wool; from the first day, also, a floccy white matter is deposited. These phenomena are not, however, constant. From the second to the sixth day, small opaque bodies are seen rising from the bottom to the surface of the fluid, and then collecting together until they form a layer, covering the whole surface—this is kiesteine. It is sufficiently consistent to be raised from off the fluid. It is whitish, opaline, slightly granular, and resembles very much the layer of fat which swims on the surface of fat broth when cooled. Examined by the microscope, it appears a gelatinous mass of indeterminate form. When it is old, cubical crystals are sometimes detected." No animalcules could be discovered by M. Eguisier. "Kiesteine persists thus for three or four days; then the urine becomes troubled, small portions are detached from the surface, and sink to the bottom, until the layer is entirely broken up." "Kiesteine appears to exist in the urine from the first month until the period of delivery." "We have found it after 24 hours—rarely so late as the 60th day."†

which exists between one organ and another, beyond what can be explained by mere connexion of nerves, we need not be surprised at the powerful effect often produced by pregnancy on the different organs of digestion, particularly on the stomach and duodenum."—*Burns' Principles of Midwifery*, 9th Ed. p. 248.

* According to M. Nauche: "By allowing the urine of pregnant women, or of nurses, to stand for some time, in thirty or forty hours a deposit takes place of white, flaky, pulverulent, grumous matter, *being the caseum or peculiar principle of milk formed in the breasts during gestation*. The precipitation is more readily procured by adding a few drops of alcohol to the urine."—*Quoted from the Lancet, in Montgomery's Signs of Pregnancy*, p. 157.

† Lancette Française, Feb. 1839, p. 36.

Dr. Montgomery remarks, as to his observations: "In some instances no opinion could be formed as to whether the peculiar deposit existed or not, on account of the deep colour and turbid condition of the urine; but in the cases in which the fluid was clear, and pregnancy existing, the peculiar deposit was observed in every instance. Its appearance would be best described by saying, that it looks as if a little milk had been thrown into the urine, and having sunk through it, had partly reached the bottom, while a part remained suspended and floating through the lower part of the fluid, in the form of a whitish semi-transparent filmy cloud.*

Dr. E. K. Kane, of Philadelphia, has arrived at the following conclusions: "1. That kiesteine is not peculiar to pregnancy, but may occur whenever the lacteal elements are secreted, without a free discharge at the mammæ. 2. That though sometimes obscurely developed, and occasionally simulated by pellicles, it is generally distinguishable from all others. 3. That when pregnancy is possible, the exhibition of a clearly defined kiesteine pellicle is one of the least equivocal proofs of that condition. 4. That when this pellicle is not found in the more advanced stages of supposed pregnancy, the probabilities, if the female be otherwise healthy, are as 20 to 1 (81 to 4) that the diagnosis is incorrect."†

More recently the attention of the profession has been called to a "new substance said to be deposited by the urine during pregnancy, and which is proposed as an additional test of that condition. The following account appears in *Braithwaite's Retrospect*: "The fluid portion of the urine of pregnant women being drawn off, there appears a natural sediment, "which, whether held in solution or separated by ether, has a striking resemblance to the serous globules, but when in a sedimentary state, bears an equally strong resemblance to the milk globule in recent milk. This substance differs from albumen and caseum, the two animal substances most analogous to it; from the former, in being soluble in water by means of heat; from the latter, in being soluble by sulphuric and nitric acids. From gelatine it also differs, first, in being precipitated from its solution in water on cooling; secondly, though partially precipitated by tannin, the precipitate was soluble in water on cooling. The author (Dr. Stark) calls it 'gravidine,' both from *gravidus*, 'big with young,' 'occurring in pregnant women;' and also from *gravis*, 'heavy,' seeing that it falls to the bottom of the vessel. Kiesteine is but the pellicle which results from the decomposition of gravidine. As the globules forming the latter substance are decomposed, urates and purpurates are developed in the urine; and when these have broken up and assumed new combinations, the triple phosphates appear, with that beautiful crystalline

* Signs of Pregnancy, p. 157.

† American Journal of Med. Sciences, No. 8, New Series.

appearance described by Dr. Bird as one of the characteristics of kiesteine."*

It is not necessary here to enter upon any detailed account of the intimate sympathy between the uterus and breasts; or the development of the areolæ, and of the sebaceous, and mammary glands, consequent upon impregnation. In another work I have given a full description of it.† I shall merely notice it as invariable, and as being sometimes excessive and requiring treatment.

392. So remarkable a local development of nervous organization is naturally attended with a general excitation of nervous energy, or an increase of irritability in the nervous system as a whole.‡ This would, of course, render the patient universally obnoxious to nervous disorders; but it especially exposes her to the agency of external and noxious impressions, and of mental emotions. A striking illustration of this fact was communicated to M. Perry by MM. Schmid and Mesnard, who were in charge of the military hospital at Landau when the arsenal at that place was blown up. He mentions in the article '*Detonation*,' in the *Dict. des Sciences Medicales*, "that among 92 children born at Landau within a few months of the accident, eight were nearly idiotic, and died before they were five years old; 33 lived till their 8th or 10th year, but were very delicate; 16 died at birth; and 22 came into the world with numerous fractures of the long bones."§

393. But this subject—I mean the connexion of the active state of the uterus and ovaries with the mental condition—deserves a little longer notice. And first let me just remark the sudden mental and moral development which takes place when puberty is established, and which is familiar to every one. Now from this increased susceptibility of the nervous system, this mental sensitiveness, the step to a morbid excess of it is but slight, and we may easily

* Ed. Med. and Scien. Journ. Jan 1, 1842.

† Theory and Practice of Midwifery, p. 108.

‡ "When speaking of the physical changes which the uterine system undergoes in consequence of impregnation, it was remarked that the nerves distributed to that organ and its appendages were augmented in size and number, and having their sensibility exalted, diffused through the system generally an increase of nervous irritability, which displays itself under a great variety of forms and circumstances, rendering the female much more excitable, and more easily affected by external agencies, more especially those which suddenly produce strong mental or moral emotions, whether of the exhilirating or depressing kind, as fever, joy, sorrow, anger."—*Montgomery on Signs of Pregnancy*, p. 12.

§ Gardien, Traitè des Accouch. vol. ii. p. 17.

trace the gradations.* And this peculiar condition is kept up by continued menstruation,† increased during each period,‡ or aggravated into insanity by the sudden suppression.§ I have seen several instances of this kind, and the authors to whom I have referred allude to such as of no unfrequent occurrence.

This inter-dependance of the mind and the uterine function is, however, more remarkably exhibited during the next great development in the female economy. The sensibilities expanded by puberty are heightened during pregnancy, and not unfrequently more or less disturbed. The increase of local organic action is accompanied, as I have said, by general nervous irritability, which shows itself in various modes, and in different degrees. Few women are quite as self-possessed, or in as even spirits during pregnancy, as at other times; little things annoy them, trifles depress them; or it may be that they are just as inordinately excited, displaying a degree of caprice or levity foreign to their character. Sometimes the most sweet-tempered become irritable, cross, and quarrelsome. The husband of a patient of mine, whose wife was remarkably good tempered and attached to him, told me that the earliest symptom of pregnancy in her case was a disposition to quarrel with him especially. Dr. Montgomery mentions the case of a lady who, for the first two or three months of her pregnancy, was so irritable, that "to use her own words, she was a perfect nuisance in the house." He also relates one of an opposite character: "a gentleman lately informed me, that being afflicted with a step-mother naturally more disposed to practice the *fortiter in re*, than to adopt the *suaviter in modo*, he and all the household had learned from experience to hail with joyful anticipations the lady's pregnancy as a period when clouds and storms were immediately exchanged for sunshine and quietness."‖

Dr. Lever relates the case of a lady who was two months pregnant, and who from having been the life of the household, light-hearted and gay, now sat wherever she was placed, neither turning her head nor her eyes to one side or the other: she was a living automaton; her movements were automatic; there was life, it is true, but there was no mind; her chiselled face seemed cut in alabaster." She recovered after her confinement.¶

Dr. Burrowes observes that "whenever mental disturbance occurs during pregnancy, it partakes oftener of an idiopathic character, either in the form of mania or melancholia, than of the delirium which suc-

* Laycock on Nervous Diseases of Women, p. 551.

† Haslam on Madness and Melancholy, pp. 215, 232.

‡ Spurzheim on Insanity, p. 162. Burrowes' Comment. on Insanity, p. 146.

§ Pritchard on Insanity, p. 207.

‖ Signs of Pregnancy, pp. 18, 19.

¶ Guy's Hosp. Reports, 2nd Series, vol. v. p. 22.

ceeds parturition." "I have seen," he adds, "two cases where hysterical symptoms attended during pregnancy, and the patient almost immediately after delivery became insane."*

394. It is very natural that with a known, still more with an unknown amount of suffering before them, and with a certain but unknown amount of danger connected with the termination of pregnancy, women should occasionally at least be subject to depression of spirits, and should take a gloomy view of their prospects. With the majority this state of mind is only occasional, or is dissipated as gestation advances: but it is not always so; with some it increases, and they constantly and steadily anticipate evil, and are either deeply distressed or apathetically despairing. As Dr. Montgomery has observed, this state of mind is often accompanied or caused by bodily derangements: the stomach and bowels are out of order; the patient complains of headache and nausea, with a foul tongue, quick pulse, and a bilious tinge of the skin. Proper treatment will generally relieve both the bodily disorder and mental affection in these cases. "Sometimes this state appears to depend upon some peculiar condition of the brain, the nature of which we probably cannot appreciate, and which our treatment will but too often fail to correct: in one strongly-marked instance of this kind which was some time ago under my care, the lady became maniacal on the fifth day after delivery, and continued deranged for many months."† A similar case is related by Dr. Haslam.‡

Some years ago I attended a lady of her first child. She had nursed a relative who died of hemorrhage during her confinement. This made a deep and fearful impression upon her mind, and from the moment she found herself pregnant, she had settled that she also should die of hemorrhage in her confinement: she had reconciled her mind to it; dismissed all doubts, and, I may add, all fears also, and regarding it as certain, she arranged all her affairs and her household, so as to give her husband as little trouble in his affliction as possible; and then when labor commenced she watched every pain for the final issue, exclaiming, "Now, the hemorrhage!" The labour terminated favourably however; but previous to this consummation her fears had completely over-mastered her reason, and she became delirious for about an hour, after which she recovered.

395. But these irregularities of temper and temporary depressions of spirits are but a step towards more serious mental derangement. In more susceptible females, the mind is occasionally completely thrown off its balance, and the patient becomes partially or wholly insane. Esquirol mentions the case of a young woman of a sensitive habit, who had an attack of madness in two successive pregnancies, commencing

* Commentaries on Insanity, p. 364.

† Montgomery on Signs of Pregnancy, p. 20.

‡ On Insanity, p. 235.

immediately after conception, and lasting fifteen days. Several women at La Salpetriere, were there for insanity connected with pregnancy.

Dr. Montgomery states that he knew a lady who was attacked with insanity in eight successive pregnancies; and another who was similarly affected three times soon after conception, and remained so until within a short time after labor, when she became sane, and continued so until the next pregnancy.

On the other hand, pregnancy occasionally relieves mental derangement. Goubelly gives a remarkable case of a lady who was of sound mind only during gestation; and the well known case of Mrs. Durant was one of this kind. I lately saw a case of confirmed melancholia in a lady, which disappeared entirely on her becoming pregnant.

Generally speaking, these attacks come on gradually, continue for a time, and disappear before or after delivery, without any peculiar danger from the malady, or from the absence of rational self-control on the part of the patient. It is not always so, however; not very long ago a most melancholy instance of the contrary occurred. A lady, pregnant, but in perfect health, was employed in some household duty, and was talking cheerfully to her husband and sister. Suddenly, and without any apparent reason, she left them, went to her bed-room, and instantly destroyed herself. This must have resulted from a sudden attack of insanity, for up to the moment before she was cheerful and happy, in good circumstances, and greatly attached to her husband: but other members of her family have been subject to insanity.

It has been remarked by most writers on insanity, that women affected with any degree of mental derangement during pregnancy, are more disposed than others to puerperal mania. But the serious character of these attacks is even deepened by the fact, abundantly established, that the evil is not limited to the mother. Not only may organic disease of the body be transmitted to the infant, but a predisposition to insanity, thus multiplying the distress in a most alarming ratio.

396. I need hardly say that we have no means of minutely explaining the *causes* of these attacks: we may say with Dr. Pritchard, that "if we consider the frequent changes or disturbances occurring in the balance of the circulation, from the varying and quickly succeeding processes which are carried on in the system during and soon after the periods of pregnancy and childbirth, we shall be at no loss to discover the circumstances under which a susceptible constitution is likely to suffer. The conversions or successive changes in the temporary local determinations of blood, which the constitution under such circumstances sustains and requires, appear sufficiently to account for the morbid susceptibility of the brain."* Or, in other words, that the

* On Insanity, p. 312.

brain and nervous system, like other organs, may be subject to reflex irritation from the uterine system.

In some pregnant women there is occasionally a special and very melancholy cause of mental derangement, in addition to the physical, common to all. I allude to the existence of some personal cause of mental distress, such, for instance, as a profligate or cruel husband; or, more effective still, an accusing conscience. All will agree with the distressing picture drawn by the able pen of Dr. Montgomery: "how deplorable must be the condition of mind in a woman, who, led astray by the profligate from virtue's paths of pleasantness and peace, and then abandoned, is compelled to consider her pregnancy a curse instead of a blessing, and has, in addition to the ordinary troubles of that state, to bear up against the agony of disappointed hopes, of affections misplaced and cruelly abused, to endure the present scorn of society, and the apprehension of a still increasing shame, for which she is to find no "sweet oblivious antidote," of power "to pluck from the memory a rooted sorrow," or "rase out the written troubles of the brain." How often has such a state of mind been followed by convulsions; or ending in insanity, has armed with the weapon of suicide the once gentle hand of her, who, to use the words of William Hunter, "might have been an affectionate and faithful wife, a virtuous and honored mother, through a long and happy life; and probably that very reflection raised the last pang of despair which hurried her into eternity."*

According to M. Esquirol, the moral causes of insanity in pregnant and puerperal women are to the physical as 4 to 1, and of 92 cases reported by him, 29 were in unmarried women.

397. Having thus pointed out the peculiarities of the uterine system during gestation, with the general or local reflex sympathies excited by them, I cannot conclude this chapter better than by a quotation illustrative of the effects of pregnancy upon existing disease, with which, I may add, my own experience perfectly agrees. The subject is an extremely interesting one, and deserves a much more elaborate consideration than I am able to give it. "Indeed I think," says Dr. Montgomery, "we have sufficient evidence to justify the belief that pregnancy acts in a great degree as a protection against the reception of disease, and apparently on the common principle, that during the continuance of any one very active operation in the system, it is thereby rendered less liable to be invaded or acted on by another; thus it has been observed that during epidemics of different kinds, a much smaller proportion of pregnant women have been attacked than others; and when women who have been laboring under certain forms of disease happen to conceive, the morbid affection previously existing is either greatly mitigated, checked, or even altogether suspended for

* Signs of Pregnancy, p. 22.

a time, as has been frequently observed in persons affected with phthisis. I had a patient under my care some years ago, with a white swelling of the elbow joint, which had gone to a great length, and was very little benefited by treatment, when all at once a very rapid improvement was observed. On questioning the lady, I found that she had reason to think herself about six weeks pregnant—which was the fact: from that time the case advanced uninterruptedly, so that before the end of her gestation the arm was perfectly well, and has continued so ever since."*

In addition, I may mention that M. Nauche has a very interesting chapter on the effects of pregnancy upon acute and chronic diseases, and of these diseases upon pregnancy. "Pregnancy," he observes, "in general increases acute diseases, especially those of the uterus"—"it may cure hemoptysis or hæmorrhages distant from the uterus,"—"chronic diseases are rendered slower in their progress, and some are cured"—"a temporary benefit is experienced in phthisis, and certain diseases disappear"—"except in procidentia and spasm, no good effects are produced upon the chronic diseases of the womb, on account of the increased afflux of fluids."†

CHAPTER II.

ON THE GENERAL MANAGEMENT OF PREGNANCY.

398. It is not often that medical men are consulted as to the management of pregnant women, under ordinary circumstances. A certain amount of inconvenience is anticipated, and so long as this supposed limit is not surpassed, the patient continues, with the advice of her female friends, to dispense with medical assistance. Still it is very desirable that every medical man should be perfectly familiar with the proper management of such cases, if for no more direct reason, yet for this, that through and by him more correct information may be circulated among those who are in circumstances to need it. Moreover, by taking a rational view of the inconveniences, we may often lay down rules which will prevent their occurrence; or, by slight adaptations, we may avoid the extremes of neglect or of over treatment, and yet relieve the patient.

The rules for management are neither numerous nor complicated, but are simple deductions from the changes induced by pregnancy

* Signs of Pregnancy, p. 25.

† Mal. des Femmes, Part II. p. 690.

and verified by experience. There is much more to be done in the way of avoiding disturbing causes then of remedying their effects.

399. We have seen that pregnancy is a physiological condition, that it is a "changed, but not morbid" state; that certain sympathies are excited naturally, and almost necessarily, and consequently we cannot, when speaking of treatment, contemplate their total suspension or removal. In the words of the experienced Dr. Burns, "as these proceed from the state of the uterus, it follows that when they exist in a moderate degree, they neither admit of, nor require any attempt to cure them, for their removal implies a stoppage of the action of gestation, which is their cause. But when any of the effects are carried to a troublesome extent, then we are applied to, and may palliate, though we cannot take them away. This we do by lessening plethora, or local irritation, or excitement of the origins of the nerves, if necessary, by bloodletting; and allaying the increased irritability of the system, by the regular use of laxatives, which remove that particular state of the bowels which is so apt to cause restlessness and nervous irritation. If these are not altogether successful, the camphorated julep or musk are useful medicines. Besides this general plan, we must diminish the febrile state of the system, when such exists, by the regulation of the diet and suitable remedies."*

No doubt, I believe, now exists in the minds of well-informed practitioners as to the propriety of bloodletting when the symptoms demand it; but the practice of taking away blood, merely because the woman is pregnant, is strongly to be deprecated. It may injure some, do neither good nor harm to others, and will relieve those only whose condition requires it.†

400. Many writers object to the employment of purgatives altogether, just as they do to bleeding, and others give them as a matter of course; both are wrong, the correct course being undoubtedly to avoid either extreme. The bowels must be regularly freed, and when nature is insufficient, we must have recourse to laxatives, and the mildest which will answer the purpose are the best. An occasional dose of castor oil, or the frequent repetition of small doses; the electuary of sulphur and senna, especially if there be piles; or saline purgatives in small quantities, with some aromatic, will generally by sufficient. Or the patient may use enemata of warm water or gruel, with

* Principles of Midwifery, p. 249. De la Motte, Traite des Accouchm. p. 4.

† "En employant la saignèe chez toutes les femmes enceintes au terme de quatre mois et demi, elle nuirait à celles qui sont faibles, serait inutiles á celles chez qui il ne se recontre aucun accident produit par la plethore." "La saignèe doit etre borneè aux cas de plethore manifeste, ou a ceux d'un surcroit d'activitè dans la matrice."—*Gardien, Traite Compl. des Accouch.* vol. ii. p. 2.

or without castor oil, once or twice a day; this will be peculiarly suitable when the stomach is irritable, or when diarrhœa or dysentery is epidemic.

Great objections have been made to the use of more potent remedies, such as emetics and opiates* during pregnancy, and so far I think with justice, that they ought never to be used, especially emetics, unless the necessity for them be very clear: but in certain cases they may be most advantageously employed. If the patient have committed an error in diet, and have filled the stomach with trash it cannot digest, nature herself points out the remedy, and I am sure it is much safer to remove the offensive matter by a gentle—the very gentlest emetic, than to allow it to remain. So if opium seems to agree best, and if the patient be able to take exercise, and be not of too full a habit, wine, porter, or ale in moderation may be allowed with her dinner. The craving which some women feel in the night or early in the morning should be provided for, as it will be relieved by a biscuit, a little milk, or a cup of coffee. Even when the morning sickness is troublesome, if this be taken some hours before rising, it will generally remain on the stomach, and afford great relief. In addition to animal and farinaceous food, a moderate amount of vegetables and fruits may be permitted, avoiding those which are found to disagree.

As to dress, the patient's own sensations will teach her to select that which is most comfortable, unless she be one of those foolish women who are ready to sacrifice every thing to the Juggernaut of fashion. It should be warm and loose, affording sufficient support, but nowhere pressing tightly or unequally.†

A rational adaptation of these means will in many cases prevent, and in most cases relieve the chief distress occasioned by the general sympathy of the constitution with the gravid uterus.

401. Let me now say a few words as to the best remedies for the local reflex-irritations, and in so doing I shall follow the order in which they are enumerated. If the patient be suffering pain, or sleepless, we may give opium without fear, but it must also be remembered that

* "Petit, and many after him, have been of opinion that opium is hurtful during gestation, and there can be no doubt that it generally is so when given frequently. It is detrimental, both by its effects upon the stomach and bowels, and on the system at large. In severe spasms, or great irritation, it may be necessary, but it never ought to be often repeated, as it ultimately increases the irritability, and injures the bowels, as it would do in cholera."—*Burns' Midwifery*, p. 249, (*note.*)

† "Le mot *enceinte*, par lequel ils designent une femme grosse, veut dire *sans ceinture* selon son sens originaire."—*Gardien, Traite des Accouch.* vol. ii. p. 15.

it is apt to derange the stomach and to constipate the bowels, and therefore we must use it sparingly, and endeavour to counteract its ill effects.

Fresh air and exercise are of great importance to the health of pregnant women, and to their well doing in parturition. At the same time the amount of exercise must be regulated by common sense. It would be worse than useless to force a woman to go through a certain amount of exercise every day, whether pleasant, beneficial, or distressing. Let her walk every day by all means, but let her cease before she is much fatigued, and if she be only able to walk a short distance with comfort, let that suffice. Her benefit is our object, and her own sensations must regulate the amount of her exertions. Some are scarcely able to walk at all without great distress, so that it would be cruel to press them; but as the danger with such persons is from plethora, I have generally insisted upon a diminution in their diet, abstinence from stimulating drinks, and a more frequent use of the gentle laxatives. Under such circumstances this treatment has succeeded very well.

If the patient can bear the motion of a carriage, fresh air can always be obtained, and the patient should drive some hours every day.

The diet must be carefully regulated; on the one hand we may allow a reasonable indulgence to the patient's taste, but on the other, inordinate or capricious fancies must be opposed. A moderate quantity of bland nourishing food at shorter intervals than usual. The mechanical inconveniences of early pregnancy are, as we have seen, pressure upon the rectum, causing constipation; upon the urethra or neck of the bladder, rendering the evacuation of the urine urgent, yet difficult; and upon the plane of the pelvis, giving the sensation of bearing down, or falling through. Now, against the first of these consequences we may guard by the due administration of mild laxative medicine, which at the same time, by keeping the bowels regular, will often prevent the occurrence of diarrhœa; against the second and third, by the regular evacuation of the bladder at intervals, and by avoiding the *prolonged* maintenance of the upright position in either standing or walking. This precaution is very necessary, as we sometimes find its neglect aid in causing displacements of the uterus. All great expulsive efforts must be avoided.

When the womb has risen above the brim of the pelvis, and is found to press inconveniently upon any organ, the pressure may generally be avoided by an alteration of position in bed, or by prolonging the horizontal posture for a longer time than usual. The latter precaution will afford temporary relief, at least to the distress occasioned by varicose veins, or œdema of the lower extremities.

Pendulous belly, arising from flaccidity of the abdominal parietes, may be relieved by stays of a proper construction, which support the lower portion of the uterine tumor, and keep the whole more upright.

The soreness of the skin in first pregnancies, from over-stretching, may generally be relieved by gentle friction with oily liniments.

402. It will be impossible to avoid the sympathetic irritations of pregnancy, especially those which are strongly favored by constitutional idiosyncrasy; but all external excitements should be carefully shunned, and all arrangements made with reference to their effects upon the temperament and habits of the patient. The food must be adapted to the irritability of the stomach or intestinal canal, and any medicine that may be necessary, chosen with reference to this condition. Constipation or diarrhœa* must be met by their appropriate remedies, but such as will excite the least amount of irritation. In cases where the breasts are painful, relief may be obtained by the use of an anodyne liniment, or friction with warm oil alone.

403. As regards the nervous system, Dr. Montgomery observes:—

"The extreme impressibility of the nervous system in pregnant women teaches us the necessity for preventing them from witnessing scenes of acute suffering or distress, such as those of sickness, especially convulsive affections, or the agonies of a death bed: they should not be present when others are in labor, which sometimes greatly terrifies the timid, and even those who pass with courage through the same process themselves. They should not expose themselves to infectious disorders, which if they should happen to catch, (though they seem less liable to do so than others,) they will at least be very liable to miscarry; and even though they may not be themselves susceptible of the disease, the unborn infant may suffer from it, as has been proved with regard to small pox. Neither should they be permitted, if possible, to see disgusting objects, for although no injury may thereby be done to the child, their minds are apt to remain much troubled with anticipations of some deformity or disfigurement likely to ensue."†

Or, to enter a little more into detail, I would observe,—1, that we have seen that mental disturbance may exist in various degrees, from mere caprice or obliquity of temper, up to actual insanity, and that the various shades are separated by no very defined line, but run into one another, in the same case. These caprices and melancholy anticipations are not to be treated with ridicule or indifference; still less are variations of temper, however unpleasant, to be met in a similar spirit of irritability, but the patient must be treated by a mixture of reasoning and patient kindness, soothed, and cheered, and

* Unless we observe some degree of minuteness in our enquiries, we are liable to be misled by the patient's declaring the bowels to be too free. They may be frequently moved, although but a very small quantity passes each time. In this case a mild purgative is required, not an astringent.

† Signs of Pregnancy, p. 15.

strengthened. Nor should higher considerations be omitted: the forebodings of evil and the depression arising from fear are best relieved by a reference to the wisdom and fatherly kindness of Him "in whose Hand are the issues of life."

2. This soothing and encouraging kindness is nearly all that we can do in those cases where there is no tangible bodily illness; but when there is any degree of feverishness or headache, immediate attention should be paid to the state of the digestive system and bowels. It is also possible that it may be necessary to take away a little blood, but such cases are rare.

3. With patients suffering even slightly in the way I have described, great care should be taken to avoid sudden or powerful mental emotions; all frightful and depressing stories; all tragic representations; all disagreeable and distressing sights should be sedulously shunned, for not only may much mischief result to the mother, but the offspring may suffer, even if the mother escape.

4. Without the appearance of suspicion, great watchfulness should be exercised in all cases where the mental equilibrium is shaken, and measures adopted quietly to preclude the patient injuring herself.

404. The foregoing observations apply chiefly to the management of the ordinary course of pregnancy, or to very slight deviations from it, with the exception of the latter remarks upon mental disturbance. We shall now enter upon the more serious disorders, in distinct chapters, according to their classification.

The disorders of pregnancy then may be divided into three classes. 1st, local diseases of the sexual system; 2nd, diseases arising from reflex irritation; and 3rd, diseases arising from mechanical causes: and in this order I propose to consider them.

SECTION I.—DISEASES OF THE GENITAL ORGANS IN PREGNANT WOMEN.

CHAPTER I.

I. ŒDEMA OF THE LABIA. II. PRURITUS OF THE VULVA.

405 I. ŒDEMA OF THE LABIA. This is a disease by no means unfrequent with pregnant women, varying a good deal in amount, and consequently in the degree of inconvenience it occasions. It is rare to find it during the early months of gestation, as it is ordinarily confined to the seventh, eighth, and ninth months.

Causes.—In the more numerous class of cases, the effusion is manifestly the result of pressure upon the veins, impeding the return of the blood. According to Dr. Davis this is peculiarly the case when the pelvis is sufficiently large to permit the uterus to sink down into it; he observes,—"These effects usually occur in women having pelves of sufficient amplitude to admit the gravid uterus to sink more or less deeply into their cavity, at a late period of pregnancy. The author recollects one case, in which the effect was partly ascribable to this cause, and partly to a general hydropic diathesis. Both labia were engorged, but one was prodigiously distended. The uterus was so low in the pelvis, that it felt to be absolutely incumbent on its very flooring. It was, however, distinctly moveable upwards, by the application to it of even moderate pressure. There was no difficulty of breathing, nor any other indication of effusion into the thorax. The treatment adopted was simple, and proved effectual. The patient was advised to lie down, with her head and shoulders as low as she conveniently could, and to use the horizontal position exclusively; while, for the general infiltration, which indeed seemed co-extensive with the cellular tissue of the entire surface of the body, she was prescribed calomel and digitalis, in the proportion of three grains of the former and one of the latter, night and morning, with the occasional addition of moderate doses of powdered jalap and citrate of potass. This treatment had the effect, in a few days, of completely removing the anasarca. The labia were also reduced to very nearly their natural size. To retain them, however, in a state of moderate non-distension, the

patient found herself under the necessity of keeping to the position prescribed to her till the accession of her labor."*

In another class of cases, it appears as a part of a general disposition to dropsical effusion, but having more important pathological relations than when it is the result of pressure merely.† It is needless to refer to those cases where it is caused by disease of the womb, as they seldom occur during pregnancy.

406. *Symptoms.*—The patient complains of a sensation of fulness, with more or less stiffness of the parts, rendering movement disagreeable or painful. In some cases there is considerable itching: Mauriceau has alluded to cases in which this symptom was very distressing.‡

The swelling is less in the morning, and much increased towards evening, in all cases where it arises from pressure, and the distress it causes is generally relieved by lying down. The reverse is often the case when it is a part of more extensive effusion.

The amount of swelling in some cases is very great: Dr. Meigs has seen it so considerable, as to interrupt the passage of the head of the child, and to prevent delivery until it was evacuated.§ In many cases, as I have said, this affection is accompanied by œdema of the lower extremities.

On examination, the labia will be found swollen, tense, colorless, almost transparent, of an equable density, and pitting upon pressure. Ordinarily there are no traces of inflammation about the part; but in some cases the friction of one labium against the other will give rise to inflammation of their inner surfaces. Aphthous inflammation has also been known to attack the labia, and Mauriceau mentions that he

* Obstetric Medicine, vol. i. p. 40.

† Mauriceau, (1724) Des Maladies des Femmes grosses, vol. i. p. 179. De la Motte, (1726,) Traitè des Accouch. p. 79. Puzos, (1759,) Traitè d'Accouchemens, p. 84. Burns' Midwifery, 9th Ed. p. 239 Siebold's Frauenzimmerkrankheiten, vol. ii. p. 75. Joerg, Handbuch der Krankheiten des Weibes, p. 467.

‡ "J'ai vû quelques femmes grosses avoir les levres de la vulve grandement tumefiées par quantitè des varices, qui en rendoient la tumeur fort inègale et y causoient un prurit douloureux. Cette accident arrive à certaines femmes qui sont trop sanguines et qui ont ordinairement le ventre fort resserrè. Pour y remedier elles doivent etre saignèes du bras, se tenir le ventre libre, s'abstenir du coït, et d'user d'un regime de vivre refraichissant."—*Des Maladies des Femmes grosses, &c.* vol. i. p. 180.

§ Philadelphia Practice of Midwifery, p. 111; see also Joerg, Handbuch der Krankheiten des Weibes, p. 467.

has seen œdematous labia attacked by erysipelas, which proved fatal after delivery.*

When the effusion is caused simply by pressure, there are no constitutional symptoms; but there is more or less feverishness when it results from inflammatory action in the cellular tissue, or when forming part of general anasarca.

The disease disappears altogether and immediately after delivery in most cases.

407. *Diagnosis.* It may easily be distinguished,—1, from *phlegmon of the labium*, in which we find a circumscribed hard tumor, exquisitely painful on pressure, and generally limited to one labium, the surface of which is of a bright or deep red color: whereas in œdema, the tumor is not circumscribed, is softer, free from pain, and colorless.

2. From *sanguineous tumefaction of the labium*, which occurs during labor from the rupture of a bloodvessel, and is marked by its suddenness, the deep red color it imparts to the skin, its large size, and the agonizing pain. In œdema, on the contrary, the swelling occurs before labor, increases gradually, and is both painless and colorless.

3. From *encysted tumors of the labia* it may at once be distinguished by the diffusion of the swelling, its softness, and its coincidence with pregnancy.

408. *Treatment.*—When the effusion is owing to pressure alone, and is moderate in degree, the exhibition of a mild purgative, and rest in the recumbent posture, will generally be sufficient. The patient will derive great comfort from bathing the parts twice a day with warm milk and water, and afterwards dusting them with starch or flour.

Should the distension be great, we are advised to puncture or scarify the parts, nor does this operation appear to be generally attended with danger: as both Mauriceau† and Smellie‡ relate successful cases so

* Mal. des Femmes grosses, vol. i. p. 181.

† As soon as the labor came on, the labia were scarified to let out the contained water. The labor terminated happily two hours afterwards. Inflammation attacked the labia subsequently. The woman had been suffering from fever for some days before delivery, and it continued, with tension of the belly, dyspnœa, and diarrhœa, and she died seven days after delivery. The puncture of the labia does not appear to have added to the danger. "Il faut remarquer," continues M. Mauriceau, "que ces sortes de tumeurs, qui arrivent quelquefois aux cuisses et aux levres exterieures de la vulve aux femmes grosses, ne sont pas ordinairement dangereuses, quand elles ne sont simplement qu'œdemateuses."—*Observ. sur la Grossesse et l'Accouch. des Femmes et sur leurs Maladies,* 1728, vol. ii. Obs. 14, p. 70. See also vol. i. p. 180, Ed. 1754.

‡ Midwifery, vol. ii. Coll. 10, No. 3, c. 3, p. 91.

treated, and Manning speaks of its good effects.* A similar proceeding will be necessary, should the tumefaction offer sufficient obstacle to the child's head at the time of labor.

In some cases the swelling may be considerably reduced by the use of diuretics and purgatives.

Should inflammation arise between the opposite surfaces, antiphlogistic measures may be necessary; brisk purgatives, poultices, lotions of acetate of lead and decoction of poppy heads, blackwash, &c. or perhaps we may find it advisable to evacuate the fluid by small needle punctures.

When this swelling forms a part of general anasarca, its treatment will merge in that of the more important disease, with a due adaptation of the mechanical arrangements to which I have referred.

409. II. PRURITUS OF THE VULVA. In a former chapter of this volume I have treated of this very distressing complaint, and I then mentioned that it occurs occasionally during pregnancy, and that it may arise from some slight inflammation of the parts, or, as Dewees found, from "an incrustation of aphthæ." It may exist, however, to a fearful extent, without any abnormal condition of the vulva at all, as the following case which has recently occurred to me in practice will testify. Mrs. ——, æt. 30, engaged me to attend her approaching confinement, and gave me the following history of herself. When about four months pregnant of her last child, she was attacked by the most intense and incessant itching of the vulva; she had no rest day or night; could scarcely ever sleep, but was obliged to walk up and down all night. Such was the amount of irritation, that the patient was kept in a constant fever, and, from being a very sweet-tempered woman, had become so irritable and cross, that, as she said herself, "there was no living in the house with her." Every kind of local application to the vulva was tried by the physician who attended her, without the slightest benefit, and the itching continued unabated until delivery, after which it disappeared in a few days. It recommenced about the same period in the present pregnancy, and when I first saw her, she had endured two months of such incessant torture as had nearly driven her mad; she scarcely ever slept, was debarred from all society, could only walk out in the evening, and was in a state of perpetual fever, irritation, restlessness, and misery. Her temper had again become irascible, and she herself feared that her mind would give way. The itching was incessant and intolerable, and only

* "Sometimes also in violent distensions of the legs and labia vulvæ, puncture and scarification will produce good effects, by discharging large quantities of the obstructed serous humors."—*Diseases of Women*, p. 325. See, also, Joerg, Krankheiten des Weibes, p. 469.

relieved for a moment by warm bathing. On examination, I found the vulva in a perfectly healthy condition, and I then proceeded with a speculum to investigate the state of the os uteri. I found the cervix greatly congested, and a superficial granular ulceration around the edge of the os uteri. This I touched lightly with the nitrate of silver, and after a few moments I laid on a coating of honey and powdered opium (in the proportion of ʒss to ℥ss). The effect was really magical; the itching ceased after an hour or two, and only recurred at intervals; she slept well, and became tranquil. One more application so far cured her, that she said it was not worth while to repeat it. She continued in this state till her confinement, since which she has quite recovered.

I shall conclude with two observations; first, that in all such cases, unless the cause of the pruritus is obviously external, we ought to examine the state of the uterus, and not to depend upon symptoms only, for in the present instance there were none, no pain, nor any discharge. 2nd. In this and other cases I have found great benefit from the application of an anodyne to the cervix, and the one I generally use is powdered opium, mixed with honey or treacle.

CHAPTER II.

VAGINAL LEUCORRHŒA.

410. I have already spoken of the irritation extended from the gravid uterus to the pelvic viscera, and of these we cannot be surprised to find the vagina among the earliest and most prominently affected. This irritation gives rise to a considerable increase in the mucous secretion of the vagina, to vaginal leucorrhœa, as it is called; there can be no doubt as to the local origin of the leucorrhœa in pregnant females; the cervix uteri being closed by tenacious mucus, it cannot proceed from the uterus, and the only secreting surface that remains is the mucous membrane of the vagina. I need not enter very minutely into the subject, however, as it is treated at length in the former part of this work. It is an extremely common accompaniment of pregnancy; so much so, that few women entirely escape, although it rarely produces any serious disturbance.

411. *Causes.* It may, of course, be excited during pregnancy by any of its ordinary causes; but in addition it may be regarded as the consequence of the pressure of the gravid womb exciting irritation;*

* "The fluor albus in pregnancy is sometimes exceedingly profuse,

of the increased vascularity arising from the more active circulation: and also of the slow return of blood, owing to the superincumbent pressure of the enlarged uterus upon the veins. It is very probable also that the state of the patient's constitution generally may have an important influence in the production of leucorrhœa during gestation. It is stated by Dr. Davis to be worse generally before the uterus rises from the pelvis than subsequently.†

412. *Symptoms.* When slight, as in the majority of cases, it scarcely gives rise to any symptoms; but when excessive, it causes great debility, and aggravates the aching in the back, of which pregnant women so often complain. I have known patients rendered so weak by the excessive quantity of the discharge, as to be unable to sit upright. In some cases, at an early period of pregnancy, it is said to threaten miscarriage; but towards the end of gestation, it is said to render labor more easy, by lubricating and relaxing the passages.

As to the character of the discharge itself, very often it is merely an excess of the natural mucus, transparent, colorless, and bland. Occasionally it is of a thicker consistence, and yellowish or greenish; in other rare cases, it is acrid, and excoriates the neighbouring skin. We sometimes also see cases presenting a greater appearance of acute inflammation than those I have described: the pulse being quick and full, and the parts hot. But, in general, there is no febrile movement whatever.

413. *Treatment.* It is not always easy, nor even desirable, to cure the disease suddenly or radically. It may act as a derivative, and prevent a more serious congestion of a more important organ.

In very trifling cases the inconvenience is so slight, that we are rarely consulted; and even in more aggravated cases, the persistence of the peculiar causes may render our efforts unsuccessful until after delivery, when the disease naturally terminates.

Taking these circumstances into consideration, our attention, as Dewees remarks, "should be principally confined to the temporizing plan of treatment." "For this purpose," he continues, "we simply direct washing the parts three or four times a day with lukewarm water, and throwing into the vagina, by means of a small syringe, a weak solution of the acetate of lead; this should not exceed a scruple to eight ounces of water. Previously to using the injection, the parts should be well washed with a weak solution of fine soap in warm water, by

and has very much the appearance as if it were caused by or accompanied with inflammation. It may then be occasioned by some extraordinary fulness of the parts adjoining to the uterus, or by more than usual irritation. It does not appear that any bad consequences, either to the mother or child, follow this complaint, or that it requires any particular treatment."—*Denman's Midwifery*, p. 160.

† Davis's Obstetric Medicine, vol. i. p. 161.

throwing up the vagina a few syringes full of it in quick succession, and then followed by the saturnine solution."*

I have found a weak solution of nitrate of silver (gr. x. or gr. xv. to ℥ iii. of water) as an injection, still more effectual. Decoction of oak bark, matico, or green tea, solution of alum or acetate of lead, will also arrest the discharge in many cases.

Should the pulse be quick and full, and the parts hot, great benefit will be derived from venesection. The state of the stomach should be attended to, and the action of the bowels promoted. In females of weak constitution, tonics are often useful.

CHAPTER III.

MENSTRUATION DURING PREGNANCY.

414. It is well calculated to excite surprise, if not incredulity, to find a function, dependant upon ovarian influence, and ordinarily performed by the lining membrane of the body of the uterus, taking place when the cavity of the womb is lined by decidua, and occupied by the ovum, and the mouth closed by dense mucus.

However strange it may appear, the cases on record are too numerous and too well authenticated to bear a doubt, that a discharge resembling the catamenia in color, quantity, and periodicity, does not unfrequently occur during gestation, and since the first edition of this work several additional cases have come under my own immediate observation.

That the ancients were well aware of the fact appears from a statement of Hippocrates, that "the children of women who menstruate during pregnancy cannot be healthy,"† but which I have not found to be the case.

Many cases of this kind may be cited from both ancient and modern authorities. Some females are stated to have menstruated once or twice only after conception, and that the discharge then ceased. The

* Compendious System of Midwifery, p. 117.
† Aphorism. 60, book 5th.

reader will find such in the works of Mauriceau,* Puzos,† Desormeaux,‡ Johnson,§ Belloc,‖ Van Swieten,¶ Frank,** Chambon,†† Gardien,‡‡ Capuron,§§ Rœderer,‖‖ Beck,¶¶ Dewees,*** Blundell,††† Gooch,‡‡‡ Kennedy,§§§ Montgomery;‖‖‖ in Siebold's Journal,¶¶¶ and in the report of the Berlin Midwifery Hospital,**** &c.

Again, cases are on record where the discharge did not merely happen once or twice, but persisted during four, five, or six months, or even during the whole period of gestation; as we find in the works of Mauriceau, Dewees, Burton, Heberden, Gardien, Velpeau, Blundell,†††† &c. I have myself seen eight or ten cases of this devia-

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* Mal. des Femmes Grosses, vol. i. p. 72, 75.
† Traitè des Accouchemens.
‡ Dict. of Medicine, vol. x. p. 394.
§ System of Midwifery, p. 100.
‖ Quæst. Med. Legal. p. 62.
¶ Commentaries, vol. xiii. p. 379, 489.
** Comment. vol. iii. p. 378.
†† Mal. des Femmes, vol. v. p. 57.
‡‡ Traitè des Accouchemens, vol. i. p. 489.
§§ Med. Legale, p. 63.
‖‖ Elem. Art. Obstet. p. 46, cap. 7, sec. 146.
¶¶ Principles of Med. Jurisprudence, p. 76.
*** Compendious System of Midwifery, p. 93.
††† Principles and Practice of Obstretricy, p. 165.
‡‡‡ Diseases of Women, pp. 202, 203.
§§§ On Signs of Pregnancy, p. 12.
‖‖‖ On Signs of Pregnancy, p. 46.
¶¶¶ Vol. vi. p. 276; vol. viii. p. 155.
**** Lancet, Jan. 27, 1838.

†††† "Je connois une femme qui a cinq enfans vivans, laquelle en toutes ses grossesses a eu ses menstruës reglement, de mois en mois, comme elle avoit coutume (sinon quelque peu moins) jusque aux sixieme mois, auquel temps elles lui cessoient seulement; nonobstant quoi elle est toujours accouchée à terme de tous ses enfans. J'en ai vû une autre, qui ne croyant pas etre grosse, à cause qu'elle avoit ses ordinaires, et ressentant quelque incommoditè de la grossesse, s'imaginant que ce fut une autre maladie, obligea son medecin de la faire saigneè et purger par plusieurs fois; ce qu'il fit tant faire, qu'elle en guerit à la veritè, mais ce fut apres avoir avortè d'un enfant de trois mois."—Mauriceau, *Mal. des Femmes grosses*, vol. i. p. 155.

"We are perfectly familiar with a number of women who habitually menstruate during pregnancy, until a certain period; but when that time arrives, it ceases; several of these menstruated until the second or third month, others longer, and two until the seventh month —the two last were mother and daughter. We are certain there was

tion from ordinary menstruation. In the most remarkable case of all, it continued during the entire period of pregnancy, and during lactation: in the others it was arrested from the fourth to the sixth or seventh month; but in all it was well marked, occurring regularly, generally smaller in quantity, and occasionally of a lighter color than usual; but in other cases not to be distinguished from the ordinary discharge.

no mistake in all the cases to which we now make reference. Our interrogatories were numerous, and their answers bore all the marks of candour. *First*, they (the menses) were regular in their returns, not suffering the slightest derangement from the impregnated condition of the uterus; *second*, they employed from two to five days for their completion: *third*, the evacuation differed in no respect from the discharge in ordinary, except that they did not think it so abundant; *fourth*, there were no coagula in any of these discharges, consequently it could not be the common blood, or the blood of hæmorrhagy; *fifth*, in the two protracted cases, the quantity discharged regularly diminished after the fourth month, a circumstance not perhaps difficult of explanation. We may also cite, in favour of our position, the authority of Heberden, Hosack, and Francis."—Dewees' *Compendious System of Midwifery*, p. 96. See also Burton's New System of Midwifery, p. 285.

Heberden "knew one who never ceased to have regular returns of the menstrua during four pregnancies, quite to the time of her delivery."—*Commentaries*, p. 208.

Gardien, Traite des Accouchemens, vol. i. p. 489.

Some patients are regular only during pregnancy, (Archives Gen. vol. xxiv. p. 443), and the persistence of menstruation during gestation is occasionally almost epidemic, or at least much more frequent some years than others. I have now eight well authenticated cases of this persistence during gestation."—Velpeau, *De l'Art des Accouchemens*, (Brussels Ed.) p. 125.

"When a woman is pregnant, the cessation of the catamenia does not invariably occur; for amenorrhœa, though general in pregnancy, is not constant." "Notwithstanding what Denman has said to the contrary, I have myself known women in whom, during the first three or four months, the catamenia have continued to flow, though not in so large a quantity, nor so long as if they were not pregnant; and in rare cases, I am told, but I have not seen any such myself, the catamenia may continue to flow up to the very last month. A gentleman, formerly associated with this class, related to me the case of a lady of considerable intelligence, who had had several children, and in three or four of her pregnancies the catamenia continued till the last month: in return, in kind, in every point except in continuance and quantity, the flow was of the catamenial character."—Blundell's *Principles and Practice of Obstretricy*, p. 164.

Still more remarkable and rare than the cases I have noticed, are those where the menstrual secretion appears for the *first* time during pregnancy, and yet such cases have been recorded by Perfect,* Reid,† Velpeau,‡ and others; or where it *only* appears during gestation, according to Daventer,§ Baudelocque,‖ Dewees,¶ &c.

* "This case was a young lady who presented all the symptoms of early pregnancy, excepting that at this time the menses appeared, 'a circumstance which had never before attended her.' She continued to menstruate every month until the end of pregnancy, when she was delivered of a small but healthy child."—*Cases in Midwifery*, vol. ii. p. 71, case 80.

The following cases are of the same kind:—

"Mad. N———, the wife of a builder, aged 24, and married eight years, had never menstruated excepting when she was pregnant; and when the flux appeared, it was known for a certainty that she had conceived. She ultimately died of dropsy."—*Comment by G. C. Winckler, Ephem. Germ. An.* 3, p. 555.

"A young woman was married at the age of 21, up to which period she had never menstruated, though her health had been good. After the lapse of about two years, subsequently to her marriage, she appeared to lose her health, and in the month of February was seized with sickness and vomiting, and on the following day she sustained a discharge of blood from the uterus, and it continued to flow for four days. In the following month it appeared again, and at the same time the abdomen increased in size. The subject of the case conjectured that she was pregnant, and the evacuation continued to make its appearance monthly. At the full period of gestation, she brought forth a healthy child. The lochia followed, but the menses no longer returned. This notice was written six months after the delivery."—*Comment. Bononiensi. Instit. Scient.* 1748, vol. i. p. 152.

† After describing a peculiar case of labor, Mr. James Reid, of London, concludes his letter to the editor of the *Medical Gazette* thus: "I may mention as another curious fact relating to this patient, that during the period of nine years that she has been married, she had never seen the catamenia till she became pregnant with this last child, after which, up to the term of quickening, they appeared regularly every month."—*Medical Gazette* for May 2, 1835, p. 146.

‡ Traité des Accouchemens, vol. i. pp. 117, 118.

§ Novum Lumen Art. Obstet. cap. xv. p. 54.

‖ M. Baudelocque states that he has met with several women who assured him that they had not had their menses periodically, except during their pregnancies. Their testimony appeared to him to deserve more credit, because they only applied to him for an explanation of the extraordinary phenomenon.—*Heath's Translation*, vol. i. p. 230.

¶ In this case the woman had never menstruated until after con-

I think we are justified in concluding, that the evidence of so many accurate observers undoubtedly establishes the fact of menstruation occurring during gestation, however difficult the explanation may be. It must not be concealed, however, that others have held a different opinion. Dr. Denman observes: "A suppression of the menses is one of the never-failing consequences of conception; at least, I have not met with a single instance of any woman continuing to menstruate when she was pregnant, though I know that popular opinion is against the assertion, and that exceptions to it are frequently mentioned by men of science. What gratification the human mind is capable of receiving by the affectation of singularities of constitution, which do not depend upon our will or power, and from which neither reputation nor advantage can be derived, philosophers may determine. But it is well known that in practice there is great occasion to be circumspect; for either from the misrepresentations of patients, or the credulity or vanity of writers, many medical works are filled with the most useless and improbable histories, defective in the essential article of all records—truth: and this charge hath been made in the most pointed terms against many writers on the subject of midwifery."* The late Dr. Hamilton, of Edinburgh, in his last work, agrees with Denman.†

415 Some slight variations are observed in the discharge; it is generally rather paler than the ordinary menses. The quantity is sometimes greater than usual,‡ but more frequently less. In no case is the discharge coagulable, or accompanied with clots.

It does not appear that there is much risk, if any, of abortion or premature labor, the symptoms being ordinarily much milder than previous to conception. There may be some pain in the back, and a sense of general weakness, but not so great as to incapacitate the patient. The recurrence of the discharge does not seem to produce much, if any, effect upon the growth of the child; the majority being of the full size when born.

ception, but from that time "she had the regular returns of her catamenial period until the full time had expired." The same menstrual development recurred on the occasion of a second pregnancy.—*Dewees' Compendious System of Midwifery*, p. 97.

* *Introd. to Midwifery*, 7th Ed. p. 148.

† Pract. Obs. on Midwifery, pp. 76, 212.

‡ "I have met with several instances of menstruation occurring once after conception, and am in the habit of attending two ladies, to both of whom it happened; and one of them who has borne four children assured me that she always knew when she had become with child by the unusual profuseness of the next period."—*Montgomery on Signs of Pregnancy*, p. 46. See also *Johnson's System of Midwifery*, p. 100.

416. *Pathology*. Different opinions have been broached as to the seat of the discharge. It has been supposed to proceed from the lower portion of the uterine cavity, before the ovum is sufficiently large to fill it, or from the vessels of the cervix uteri, whether internal or external, (*Van Swieten*,* *Frank*,† *Hoffmann*,‡ and *Desormaux*§); or according to Velpeau,‖ from the vaginal mucous membrane. I do not see how the first opinion can be maintained against the fact, that the canal of the cervix uteri is blocked up by tenacious mucus immediately after conception, and the circumstance of the ducidua lining the entire cavity by which the menses are secreted.

The second explanation may be true, but it appears to me to assign too limited a source to the discharge, though I question not that the mucous membrane covering the cervix may share with the vaginal mucous membrane the vicarious function. The latter opinion of M. Velpeau is rendered more probable by the fact, that one of the patients from whom Dr. Charles Johnson of this city removed the entire uterus, men struated after the operation.¶

As to the pathological cause of this deviation, it is more difficult to state anything explanatory. It is evidently owing to ovarian excitement, and to that habit or necessity of periodical discharge, which gives rise to other varieties of vicarious menstruation. It is neither more or less easy to account for a monthly discharge of apparently menstrual fluid from the vaginal mucous membrane, than from the mucous membrane of the lungs, gums, eyes, ears, &c.

417. *Treatment*. As so few symptoms attend this disease, and those few so slightly distressing, very little medical interference is required. The patient, to ensure safety, should be enjoined to preserve the recumbent posture so long as the discharge continues. Her clothing should be comfortable, but not too warm; her diet nourishing, but not stimulating; and her occupations cheerful.

An attempt has been made, in different ways, to arrest the discharge. Hippocrates advises the application of cupping-glasses to the breasts. Whether as effectual for this purpose as for relieving amenorrhœa, I am unable to decide. Mauriceau and others have ad-

* Commentaries, vol. xiii. pp. 379, 469.

† Epit. de Morb. Human. de Metrorrhagia.

‡ Ratio Medendi, vol. iv. pt. 9, cap. 625.

§ Dict. de Medicine, vol. xiv. pp. 84, 85.

‖ "D'un autre cote, il est egalement certain qu'on l'a vu quelquefois transuder du l'interieur du vagin ou de la vulve. Je ne vois pas même qu'il puisse venir d'ailleurs, lorsqu'une femme enceinte continue d'etre reglée jusqu'a la fin de la gestation, a moins qu'il n'y ait grossesse contre nature, ou que la matrice ne soit double."—*Traite des Accouch.* (Brussels ed.) p. 103.

¶ Dublin Hospital Reports, vol. iii. p. 479.

vised blood-letting from the arm, but I believe that the general opinion at present is in favour of temporizing treatment.

CHAPTER IV.

DISCHARGE OF WATERY FLUID FROM THE VAGINA.

418. PREGNANT females are occasionally attacked by a fluid discharge from the vagina, quite different from leucorrhœa, which has been described.* It may occur once, twice, or thrice during pregnancy, and continue for a week or two, or persist for several months. The quantity varies a good deal, from a few ounces to some pints daily, and the character of the discharge is uniformly colorless, transparent, and bland.

A vaginal examination affords no explanation, as no deviation from the healthy condition of the parts can be detected. It is important to note that in the majority of cases, the size of the abdomen does not appear to be lessened by the discharge.

The only symptoms which attend the disease are excessive weakness and some pain in the back.

419. *Pathology.*—Two suppositions have been started to explain the source of this discharge. First, it is considered by some to be an excessive secretion from the glands of the cervix uteri; secondly, by others, it is supposed to arise from the evacuation of the liquor amnii, or liquor chorii.†

As to the first, it may be objected that most of the discharges that we know to originate in the glandular structure of the cervix uteri are opaque and colored, or if transparent, are of a much thicker consistence than water; but that a temporary and excessive secretion of thin transparent mucus may take place from the vaginal mucous membrane, we have sufficient proof in the profuse discharge of mucus which precedes or accompanies labor. It is probable, therefore, that the disease under consideration may have its seat in the lining membrane of the vagina, but not at all probable that it originates in the glands of the cervix uteri.

As to the second cause of the discharge, it undoubtedly does occasionally happen that the fluid collected between the amnion and chorion, or between the chorion and decidua, is evacuated during pregnancy, or some

* Burns' Midwifery, p. 242.
† Siebold's Frauenzimmerkrankheiten, vol. ii. p. 371.

time before the commencement of labor.* Dr. Davis speaks of this occurrence as highly dangerous :—"The escape in dribbling quantities of an aqueous fluid, similar to the liquor amnii, for many weeks or months before the accession of labor, is in most cases a dangerous, and

* "A gentlewoman of the age of thirty, on Tuesday, April 22, 1770, in the latter end of the sixth month of her fifth pregnancy, was suddenly seized with a great weight and oppression at the lower part of the abdomen, so that she was not able to walk up stairs, but was under the necessity of being carried. The morning after this happened, I accidentally called upon her, and found the abdomen considerably larger than it ought to have been for the time. She was scarcely able to walk across the room. In the afternoon she had some labor pains, and parted with near a quart of water, which came from her all at once, and continued running from her for seven days successively, from the time of her rising in the morning till the time of her going to bed at night, so as to wet sixteen or seventeen double cloths every day; but it always ceased when she lay down, either night or day. On Monday, April 29th, the running of the water ceased.' On Tuesday, May 7th, she had a relapse of her disorder. "In this state she continued parting with water in the manner above related, at intervals of three or four days, when it generally ran from her for the space of one day, excepting that part of it when she lay down upon the bed, till the 30th of June. After this time the water began to run from her every morning, as soon as she got out of bed, and continued all day, except when she lay down, as before, till within five days of her delivery, which happened July 15th." "In the morning of July 14th, she was taken ill (with labor pains) again, and parted with a greater quantity of water that day than she had ever done before." At 6 a. m., July 14th, "I found the os uteri much dilated, *the waters collecting, and the membranes pushing strongly down*; her pains were very regular and strong; *the membranes came to the os externum before they broke*; and after two more pains she was delivered of a large healthy child, about 5 A. M. Since the above, the same lady has had three children. The circumstances in each were nearly the same with the foregoing case." The fluid did not coagulate on the application of heat.—*Medical Commentaries*, vol. iii. p. 187.

"It seems probable that in many of the above cases of what has been technically called *dribbling of the waters*, the membranes of the ovum may have been their source. We know that it is a peculiar function of the amnion to secrete the fluid which takes its name from it. Whether the chorion may also not sometimes take upon itself the same office, the author knows of no sufficient evidence to enable him to decide the fact. But if we do not assume it, we shall find it very difficult to account for such profuse discharges of colorless fluids as have sometimes been reported to have occurred during pregnancy;

often a fatal affection of the pregnant state."* This is at variance, however, with other authorities, who do not generally consider this disease as of so serious a character.†

and where afterwards it has been proved, as in Dr. Alexander's case, that the amnion has sustained no solution of continuity. Analogy would lead us to suspect the existence of what might be called a dropsy of the chorion, it now being well known that the amnion is liable to become the agent of a morbid discharge, which has already received the designation of dropsy of the amnion."—*Davis's Obstetric Medicine*, vol. ii. p. 903.

See also Mauriceau, Mal. des Femmes grosses, vol. i. p. 178, vol. ii p. 501. Puzos, Traite des Accouch. pp. 86, 87.

* Obstetric Medicine, vol. ii. p. 901.

† "A woman of 28 years of age was seized, in the fourth month of her pregnancy, with a discharge of very clear lymph from the vagina, so that she voided of this transparent fluid about two pounds daily. On the third day after the accession of this flux she was attacked with fever, in consequence of which it sustained an inconsiderable diminution of its quantity, but was not suppressed. The fever was repressed by bleeding and the use of cinchona bark. The flux of lymph, however, continued during the whole of her pregnancy, but during the latter months only in the quantity of about half a pound daily. About the eighth month the patient fell into a violent passion, which was followed by the accession of labor pains, and she was delivered of a healthy living child soon afterward."—*Comment. de Rebus in Scient. Nat. et Med.* vol. iii. p. 613, Leipzic, 1764.

Dr. D. B. Scharf, in the Nuremberg and Leipzig Miscellanies, mentions a similar accompaniment of pregnancy, and states that he had few hopes of a favorable termination. He prescribed certain remedies, which caused an abatement of the discharge, though it did not entirely cease till the full period of pregnancy, when a fine healthy child was born."—*Ephem. Germ.* Dec. 2, p. 250.

The most recent case of this kind with which I am acquainted is recorded by Dr. Petel, of Chateauroux, in the Gazette des Hospitaux for July, 1838: "Theresa Nonain, æt. 39, of good constitution, and the mother of three children, was attacked by vomiting, in the month of July, 1833, and towards the end of September (not having menstruated for four and a half months) there was discharged from the vagina nearly three pints of limpid water. Pains similar to those of labor came on, but ceased after a while, without having produced any effects. From this time the discharge continued night and day, to the amount of two or three pints every twenty-four hours. It escaped involuntarily from time to time, and without pains. The urine was

It is clear, then, that this may be a source of the fluid discharge of which I am treating.

Further, the membranes occasionally give way, and the liquor amnii is evacuated without bringing on labor. Professor Burns of Glasgow remarks, "I have known instances where, after fright or exertion, a considerable quantity of water has been suddenly discharged, with subsidence of the abdominal tumor, or feeling of slackness, and even irregular pains have taken place, and yet the woman has gone on to the full time."*

Dr. Pentland, formerly master of the Dublin Lying-in-Hospital, has recorded a similar case †

In cases of enlargement of the uterus from hydatids, when the symptoms resemble those of pregnancy, this occasional discharge of clear fluid is a prominent symptom.

420. *Diagnosis.*—The principal grounds upon which our diagnosis must be founded are the character and quantity of the discharge, its frequency of return or persistence, the effect upon the size of the abdomen, and the integrity of the membranes, if it be possible to ascertain the latter. If the discharge be sudden and profuse, accompanied with subsidence of the abdomen, we may conclude that probably the membranes have ruptured, and the liquor amnii escaped; but if the discharge be smaller, escaping more gradually, and not affecting the size of the uterine tumor, we can only suppose it to have proceeded from the vagina or chorion. Between these two sources it may be impossible to decide.

421. *Treatment.*—For discharges proceeding from within the membranes we have no remedy. The utmost we can do is to keep the patient quiet, dry, and clean. An occasional anodyne may have a beneficial effect.

If, on the other hand, the vagina be the seat of the disease, we

always sufficiently abundant, but the fæces were very hard. Her nourishment consisted of a little milk in the morning, and some light aliment in the evening, far less in amount than the fluid which escaped from the vagina. Her appetite at this time had almost ceased; her complexion was sallow, and she was without strength. She felt no fœtal movement; her figure increased but little, and "ballottement" could not be felt; and consequently it was doubted whether she were pregnant; but on the 5th of February, 1833, she was seized with labor pains, and *the ordinary amount of liquor amnii* was discharged, with a little blood. The next day she was delivered of a living child, which, with the mother, did well." She must have lost from 300 to 390 pints of water at least.—*Encyclographie,* Aug. 1838.

* Midwifery, p. 244.

† Dublin Medical and Physical Essays, No. I. Art. 1–3.

may employ some astringent injection, such as decoction of green tea, oak bark, matico, or a solution of alum, nitrate of silver, &c. and in some cases we shall succeed in arresting the discharge, but not in all.

The bowels must be kept free, and the patient cautioned against making much exertion.

CHAPTER V.

DROPSY OF THE AMNION.

422. ALTHOUGH the ordinary abdominal distension caused by the enlarged uterus is in most cases attended by some slight inconveniences, still, with a littl. management, it is not intolerable. But in some cases the quantity of liquor amnii is so much beyond the ordinary amount, that considerable distress results from it, as in the following case related by M. Duclos,* and abridged by Dr. Davis: "A lady aged twenty-five years of age, of a weak and lymphatic constitution, was seized in the seventh month of her sixth pregnancy with dry and frequent cough, which disturbed her at night. To the cough was added fever, intense thirst, dry skin, scanty and lateritious urine, œdema of the lower extremities, loss of color, and restlessness. Soon afterwards the abdomen became hard, tense, painful, and much enlarged, and the respiration at the same time so tight and laborious, that the patient could no longer retain the horizontal posture. Hiccup, palpitations, vomitings almost incessant, rending pains in the loins, cessation of the motions of the fœtus, anxiety, fainting, and aphonia ensued. On examination in this deplorable state, Dr. Duclos recognised an excessive distension, with a more than ordinary elevation of the uterus. This organ seemed to occupy the whole of the cavity of the abdomen. Its orifice was directed backwards and towards the base of the sacrum, and the fluctuation of a fluid within its cavity was abundantly perceptible; a consultation was instantly summoned. The pulse was then small and weak; the face was shrunk and dejected; the respiration short, hurried, and suffocation seemed actually impending on hazarding any change of position. The nature and peril of the case was unanimously agreed on by the consultants; and premature delivery, while acknowledged to be full of danger, was indicated as the surest resource. Yet some diversity of opinion as to

* Bull. de la Faculté de Med. June, 1838.

the best means of inducing labor existed. How, in fact, it was inquired, was the dilatation of the uterine orifice to be effected, in its present high and unfavorable situation. Extraordinary efforts, such as might prove fatal to the patient in her exhausted state, would be evidently requisite for this purpose. Hence the attempt was considered as highly objectionable by Dr. Duclos, until labor should commence—an event which the extreme distension of the uterus would probably soon determine. The consultation was therefore adjourned till next morning. On the subsequent day, the question of artificial delivery was again discussed; it was decided to wait till the os uteri should evince a tendency to dilatation. The patient now received the sacrament, and soon afterwards sank into a state of syncope—on recovery from which, incipient dilatation of the uterine orifice was perceptible. On striking the abdomen, fluctuation could be easily distinguished throughout its whole extent. Observing a return of the suffocation, Dr. Duclos determined on immediately rupturing the membranes, and evacuating the liquor amnii at four several times, with an interval of fifteen minutes between each. With his finger introduced into the os uteri, he regulated the evacuation—while the process was seconded by the pressure of a napkin encircling the abdomen. In this manner fourteen pounds of fluid were discharged, independently of what escaped without being received into a basin. The vomiting immediately ceased, and the respiration was relieved. During five hours of subsequent repose the strength was recruited by frequent administration of light broth, with the addition of small quantities of wine. The cough and palpitations had greatly subsided; but as the uterus seemed no longer capable of making an effort, the termination of the delivery was resolved upon. The uterine orifice, thin and unresisting, was easily dilated, and a small child was extracted, with the assistance of the forceps. The child, a female, although living, was puny and feeble, with very slender limbs. From the calculation of the mother, it had nearly attained its seventh month of uterine growth. Immediately after delivery, the bandage round the patient's abdomen was somewhat tightened; and an attempt was made to excite the action of the uterus by external frictions, and by titillations applied to the orifice of that organ, aided by an occasional exhibition of thin soup, together with some wine. Compresses, moistened with brandy, were applied to the abdomen; and a few hours of refreshing sleep, sufficient to dissipate completely the hiccup and the palpitations, were enjoyed. The lochia were very abundant, but almost serous. The flow of urine on the following day was copious, if not profuse. On the third day after delivery, the œdema of the extremities had considerably diminished, and the secretion of milk had duly taken place. In ten days afterwards the œdema had entirely disappeared, but the lochia continued to flow till the fifteenth. In six weeks the patient was quite restored. At the end of two years she

again became pregnant, and went through the process of parturition in the most favorable manner."*

This form of disease is quite different from the collection of fluid between the chorion and amnion which I have just described. As a well-marked disease it is rare, but minor degrees of it are not very uncommon; at least the differences of the patient's size in different pregnancies is often no otherwise explicable than upon the supposition of the liquor amnii being more abundantly secreted at one time than another.

423. *Causes.*—There can be no doubt that the proximate cause is the excessive action of the secreting vessels of the amnion, and consequently that the disease is one rather of the ovum than the uterus; but whether this is invariably the result of inflammation may, perhaps, be doubted, although the remarks of M. Mercier appear to favor this opinion.† It would appear also that it may be connected with diseases of the placenta, such as cysts, tubercles, induration, dropsy, &c.‡ Neither is it improbable that some constitutional peculiarity or disease in the mother may be among the remote causes of this disease, and the fact of its recurrence in the same woman seems to confirm this view.

424. *Symptoms.*—As we might expect, in the slighter cases, the principal symptoms arise from the mechanical distension of the abdomen. The uterus is much larger than usual, and proportionably more weighty, rendering the patient very uncomfortable in the upright position and in walking.§ If it be the third or fourth gestation, and the abdominal integuments be tolerably flaccid, the uterus will fall forward, giving rise to what has been termed "pendulous belly," and adding greatly to the distress.

In most cases some inconvenience is felt from the increased pressure upon the bladder, and in some from pressure upon the stomach and intestines.

It would naturally be supposed that the greater size of the abdomen would more decidedly obstruct the various trunks of the lower extremeties, and so occasion the legs and feet to swell more than usual, but this does not appear to be always the case.

The constitutional symptoms are not very remarkable: the tongue

* Davis's Obstetric Medicine, p. 906.

† Journal Gen. de Med., vol. xliii. p. 165; and vol. xlv. p. 256 See also a case by M. Davilliers, Journ. Gen. de Med. vol. lxii. p 252; and another by M. Desmarais, in the Receuil Period. de la Societè de Sante, vol. vi. p. 357.

‡ Burns' Midwifery, p. 243.

§ Scarpa's case, in Journ. Complement. des Sciences Med. vol. i. p. 91.

is generally whitish, the urine scanty, and the digestive functions imperfectly performed.*

In the more aggravated cases, however, such as that related by M. Duclos, these symptoms were very severe. Hiccup, palpitations, incessant vomiting, fever, cough, œdema, anxiety, faintings, &c. placed the patient in very imminent jeopardy. Fortunately such extreme cases are very rare.

The infant, however, does not escape so well: it is either very feeble or diseased, when born at the full time, or it dies before the completion of utero-gestation.†

Dr. Burns remarks: "All of these causes do not operate uniformly to the same extent, but the fœtus suffers in proportion to their operation. It is either born very feeble and languid, and is reared with difficulty, or it dies almost immediately, or it perishes before labor commences; and this is generally the case where the diseased state exists to any great degree. The period of the child's death is usually marked by a shivering fit, and cessation of motion in utero, at the same time that the breasts become flaccid. Afterwards, irregular pains come on, with or without a watery discharge. Sometimes the woman is sick or feverish for a few days before labor begins."‡

In the British and Foreign Medical Review for Oct. 1839, pp. 564, 565, there are four cases of "morbid accumulation of the liquor amnii," extracted from the Neue Zeitschrift für Geburtskunde, Band 7, Heft 1. Three cases are by Dr Bunsen, of Frankfort-on-the-Maine, and one by Dr. Kyll, of Cologne. In case 1, the placenta was very large, and the child hydrocephalic. in a subsequent pregnancy, the placenta was still larger, but the quantity of the liquor amnii was not excessive. The child was very feeble. Case 2.—Child born with ascites, and lived only twenty hours. The placenta was very large. Case 3.—The child was healthy. Case 4, I shall extract: "The patient, a lady æt. 28, first came under Dr. Kyll's care, in consequence of having been infected with syphilis, by a girl whom she had employed to draw her breasts after her first confinement. After having suffered from this disease for eight months, she applied to Dr. Kyll, who prescribed corrosive sublimate with advantage; but when nearly well, she aborted, at the third month of her second pregnancy.

* Joerg, Handbuch der Krankheiten des Weibes, p. 497. Siebold, Frauenzimmerkrankheiten, vol. ii. p. 368. Carus, Gynæcologie, vol. ii. p. 238.

† "L'amas de serosités dans la matrice peut se faire dans une quantitè tres considerable, et c'est presque toujours aux depens de l'enfant, qui profite moins dans cette hydropsie de matrice qu'il ne se flottoit que dans une quantitè d'eau ordinaire."—*Puzos, Traitè des Accouchemens*, p. 86.

‡ Midwifery, p. 242.

Three months afterwards, having perfectly recovered, she became again pregnant, and suffered much during this pregnancy from varicose veins of the thighs. Venæsection, however, afforded her great relief. At the end of the sixth month, without any assignable cause, the liquor amnii began to drain away; two days after which, labor set in, and a female child was born, which struggled a little, and then died. The expulsion of the child was accompanied with the escape of a very large quantity of liquor amnii. At the expiration of two hours, the placenta, which was universally adherent, was removed, when Dr. Kyll was struck by its remarkable large size. *The circumference of the organ was more than a third greater than natural, and its thickness was double that of an ordinary placenta.* It was of a pale red color, and of a spongy structure; but on dividing it, its tissue appeared perfectly natural, save that the bloodvessels were larger than usual, as were also the umbilical arteries and veins, although the child wanted three months of the full term. Three days after delivery, the patient lost a considerable quantity of blood from the uterus, but eventually she perfectly recovered. The large size of the abdomen of the fœtus had already attracted Dr. Kyll's attention, and on making an examination of it, a large quantity of straw-colored fluid was found in its cavity, and between the folds of the omentum. The liver was very large, occupying the whole abdomen, and reaching downwards nearly to the bladder; but its substance, when cut into, presented no sign of inflammation, nor any other change in structure than great development of its vessels. This unusually large size is referred by Dr. Kyll to the hypertrophy of the placenta, and the consequently increased quantity of blood which the liver would receive. The enlargement of the placenta is, in his opinion, owing rather to congestion than to inflammation, since the results of inflammation are obliteration of vessels from exudation, and consequently diminished nutrition of the organ; owing to which it shrinks, and its structure becomes more compact and firmer than natural, sometimes attaining to an almost cartilaginous hardness."

Whether the injury to the child arise from pressure, from the fluid being less nutritious, or from some other cause, it is difficult to say.

Besides the inconveniences resulting from this disease during pregnancy, it sometimes occasions delay in the first stage of labor; the over-distension diminishing the contractile power of the uterus; but which is easily remedied by rupturing the membranes. After labor hemorrhage sometimes occurs, and from the same cause, the uterus having lost its ordinary tone and contraction, from the previous distension.

425. *Diagnosis.*—The principal diagnostic marks of this disease are the disproportionate size of the uterine tumor to the period of pregnancy; the presence of certain signs of pregnancy: and in some cases, the situation of the child, and the feebleness of its movements. As

to these latter points, Dr. Burns remarks, that "in some instances the child occupies the upper part of the uterus, and the water the under, at least during labor. Twice in the same woman, in succeeding pregnancies, I found the child contained in the upper part of the uterus, and embraced by it as if it were in a cyst, while several pints of water lay between it and the os uteri, when the water came away, filling some basins. Then the child descended to the os uteri, but was born dead, with the thighs turned firmly up over the abdomen, and other marks of deformity."*

M. Puzos lays great stress upon the stillness or feeble movements of the child, the enormous size of the abdomen, without an equal amount of œdema of the thighs and legs, and the trifling disturbance of respiration †

It may be distinguished from ascites by the signs of pregnancy. If we find the defined uterine tumor, "ballottement," and the change in the breasts, we can have no doubt of its being more than ascites.

426. *Treatment.*—It does not appear that this disease is much under the control of medicine. Various means are recommended, less with the hope of curing than for the purpose of mitigating certain distressing symptoms, or improving the general health. If the patient be feverish, or if there be much pain in the uterus, the abstraction of a few ounces of blood from the arm, or by cupping from the sacrum, will be found beneficial.‡

Tonics have been used with benefit to the health. Diuretics seem to have failed completely.

Some good may be done by restricting the patient to a dry diet. Dr. Burns speaks rather favorably of the use of the cold bath.

If there be any suspicion of a syphilitic origin, it may be well to submit both parents to a mild course of mercury, "conducted prudently."

Should the distension be enormous, and the distress very great, we shall be justified in having recourse to the induction of premature labor, especially because in those cases the child is generally lost when left to nature. Whilst this operation is in our power, it appears to me quite unjustifiable to have recourse to abdominal paracentesis, as recommended by some authors §

427. As to the treatment when this extreme distension impedes the first stage of labour, the remedy is simple. Where we are quite satisfied of the nature of the case, and that undue delay will be the result, the membranes must be ruptured, and if possible so as to secure the gradual dribbling away of the liquor amnii, rather than its sudden

* Midwifery, p. 242.

† Traitè des Accouch. p. 89.

‡ Burns' Midwifery, p. 243.

§ Desmarais, in Recueil Period. vol. vi. p. 349; and also Baudelocque's Memoires, in the same volume.

evacuation. If the os uteri be not soft and dilatable, or dilated, the absence of the bag of the waters will occasion some trifling delay, and it will be necessary to watch the case carefully, lest, in the empty and flaccid condition of the uterus, hemorrhage should take place. If the pains be deficient, or there be a threatening of hemorrhage, a good dose of ergot may be given, provided that the presentation be natural, and the passages of ample dimensions.

When the contents of the uterus have been evacuated, and the patient is convalescent, we should very carefully consider whether any thing can be done to prevent the recurrence of the disease.

If there be any suspicion of syphilis, mercury must of course be used. Probably, in ordinary cases, more benefit will be derived from counter-irritation to the sacrum, and vaginal injections of cold water, or the use of the bidet, than from any other treatment.

Professor Burns says, "when it proceeds from some latent cause, I think it useful for preventing a repetition of the disease, to make the mother nurse, even although her child be dead."

CHAPTER VI.

RHEUMATISM OF THE UTERUS.

428. Rheumatism of the uterus has been but slightly noticed in these countries; it is mentioned as long ago as 1685 by Dr. Charlton, in his essay "*Inquisitio de Causis Catameniorum et Uteri Rheumatismo.*" Recently, Dr. Rigby* has described it as affecting the unimpregnated uterus and ovaries; and in America, Dr. Isaac Taylor, of New York, has published a very valuable paper on the subject.† On the continent I find more frequent allusion to it; both MM. Alphonse le Roi and Chambon appear to have observed it, without, however, entering very minutely into the subject. In Germany it has been described by Wigand,‡ Carus,§ Schmidtmuller,‖ Joerg, Velten,¶

* Med. Times, 1844–5. Essay on Dysmenorrhœa.

† Amer. Journ. of Med. Science, July 1845, p. 45.

‡ Beitrage zur theorischen und pratischen Geburtshulfe, &c.

§ Diss. de Uteri Rheumatismo. Gynæcologie, vol. ii. p. 232

‖ Handbuch der medecin. Geburtshulfe, vol. i. book i. ch. vii.

¶ In Rust's Magazine, 1823, vol. xiv. p. 537.

Haase,* Betschler,† Henne,‡ Busch,§ and Witcke. In France, M. Dezeimeris|| has published some very able papers, and M. Cazeaux enters pretty fully into the subject.¶ Of these researches I have freely availed myself in this chapter.

429. "Rheumatism," says Wigand, "may attack the fibres of the uterus as well as the muscles and their sheaths, marking its presence, as in other parts, by pain, the effect of which is to impede the contractility and motion; by increase of heat, swelling, &c. Along with rheumatism of the uterus, there sometimes exists a general affection of the same nature; but more frequently the uterus, its appendages, and the organs immediately surrounding it are affected, owing to its great irritability during gestation."

The unimpregnated womb may be the subject of this disease, according to Radamel, but we have now to consider it as affecting that organ during pregnancy.

It may occur at any period of gestation, but is much more frequent towards the termination, when the uterus has acquired its maximum distension. There can be but little doubt that many examples of what are called false pains are in truth instances of this rheumatic affection of the womb.

430. *Causes.*—Probably the principal of these is cold, acting upon an organ whose nervous power and consequent irritability have been so greatly increased. M. Cazeaux remarks that "all such circumstances as are favourable to the development of rheumatic affections, may likewise lead to an attack of rheumatism of the uterus. Thus, exposure, whether momentary or prolonged, to dampness and cold, insufficient clothing, sudden transposition from an elevated to a very low temperature, and all other causes, constitutional and atmospheric, regarded by medical authors as occasional or predisposing causes of rheumatism, may also produce that of the uterus. But besides these general causes, there is one peculiar to the malady under consideration. I allude to the facility with which this organ, under the thinned integuments of the abdomen, feels the impression of cold in the latter months of pregnancy; the abdomen being guarded where it encloses the uterus by extremely light garments, which are closely in contact with it, and the lombo-sacral region being often badly protected by

* Zeitschrift fur Geburtskunde, vol. iv. p. 435; vol. vii. p. 7.

† Annalen der Klinischer Anstalten der Universität der Breslau, &c.

‡ Siebold's Journal, vol. viii. p. 161.

§ Die Geburtshulfliche Klinik an dem König. Fried. Wilh. Univers. zu Berlin.

|| L'Experience, May and June, 1839.

¶ Traite Theorique et Pratique de l'Art des Accouchemens, p. 689.

jackets of insufficient length."* Wigand, Joerg, and Busch have remarked that the figure of pregnant women, by projecting the clothes from the lower part of the body, is a peculiar cause of cold.

This affection was observed by Velten during a general epidemic of rheumatism.†

It occasionally attacks persons who are liable to nephritis, and may co-exist with an attack of rheumatism generally, although the uterus and adjoining structures are more commonly affected alone.

431. *Symptoms.* If the attack be mild, the patient will complain of sudden shooting pains in the region of the uterus, coming on in paroxysms, with intervals of more or less complete ease. In some cases the spasm is limited to small space; in others it affects the organ generally.

If it be more severe, it may be preceded by headache, uneasiness, giddiness, and general irritability. Suddenly, without apparent cause, the patient will be seized with severe pain in the region of the uterus, of a spasmodic character, with distinct contractions of the uterus, and so much suffering during the whole of their duration, as will distinguish them from real labour pains. Wigand says that there is no dilatation of the neck of the uterus; but in this Carus differs from him, and points out the possibility of mistaking rheumatism for the commencement of labour. It does not follow, however, that the expulsive efforts thus inauspiciously begun will continue; though, if neglected, abortion or premature delivery has sometimes resulted.

"Whatever be the mode of its onset," says M. Cazeaux, "the disorder is easily recognised by very decided characteristic features. Its principal symptom is pain; where not the least violence has been offered to the organ, the womb becomes the seat of a general or partial pain, the intensity of which varies from the very slightest sense of weight up to the most insupportable agony. It may affect the uterus wholly, or only attack some particular part of it, as the orifice, the cervix, or the fundus. When the rheumatism is fixed in the fundus only, the pain is felt in the region above the umbilicus. It is increased by pressure, by the contraction of the abdominal muscles, and sometimes by the mere weight of the clothes; the patient is often unable to move; if the disorder be seated lower down, there are shooting pains that run from the loins towards the pelvis, the thighs, the external genitals, and the sacral region along the ligaments of the uterus. Lastly, when the cervix is the part affected, it may be known by the vaginal "*toucher*," which gives rise to excessive suffering. But of all the causes which increase the pain, none is so distressing as the incessant motions of the child. Like other rheumatic pains, those of the

* Traité, &c. p. 689. Meig's Trans. of Colombat. p. 287.
† Rust's Mag. für die gesam. Heilkunde, 1823, vol xiv. p. 537.

womb are moveable, and are observed occasionally to pass suddenly from one portion of the organ to the other. They often suddenly cease, and proceed to attack some other organ. This is most likely to happen when the uterine rheumatism has been preceded by a fixed pain in some other part of the body, and when remedies are used likely to recall the pain to its original seat. These pains are characterised by frequent exacerbations, which are variable as to their duration and intensity, according to the stage of the disease; they are succeeded by remissions, during which the patient complains of little but a vague sense of weight."

The irritation is not, however, confined to the uterus, but extends to the adjacent viscera. Distress is felt in the bladder, accompanied by a frequent and urgent desire to pass water, and with pain when the desire is gratified.

The intestines, also, sometimes sympathize with the womb; and then the patient may suffer from colic, or diarrhoea, or lo[illegible]. The motions of the child are a source of great torment, owing to the increased sensibility of the womb, and from some sympathy (it may be supposed) with the mother, it not unfrequently happens that these motions are peculiarly lively.

Joerg has remarked that the child is less frequently injured by rheumatism than by simple inflammation of the uterus. In the mild form there is little or no impression made upon the constitution; but the more severe attack occasions great disturbance. The pulse is quickened, and the skin made hot; the patient is sleepless and restless. Nauche adds, that the irregular contraction of the womb is sometimes extended to the limbs.

432. Two very important points remain for investigation, viz. the influence of this disorder upon the progress of pregnancy, and upon parturition; and here I shall avail myself freely of M. Cazeaux's researches. As to the first point, he remarks: "When the attacks have persisted for a very long time, or where they have been very violent, they are followed by uterine contractions, and may in this way bring on premature delivery. In such a case, the patient suffers from severe tensive pain. This feeling of tension is not equable, for it rises to a great height, and then subsides, to begin again, and pursue the same course at intervals. At first the womb becomes partially, and afterwards universally hardened during the pain. The cervix becomes rigid, and partially dilated; but its dilatation is at first slow and difficult, and its subsequent progress does not correspond with the pace of the pains. The abortion with which the patient is now menaced is more apt to occur in the febrile than in the apyretic form. Indeed abortion is not so common as might be presumed. In some instances the os uteri has been observed to dilate to the extent of two or three centimetres in diameter, the bag of the waters has been formed and afterwards withdrawn little by little, the orifice closing again, and all symptoms of labor wholly disappearing. As long as the diameter of

the os uteri does not reach the extent of five centimetres, we may reasonably hope to put off the labor. These uterine rheumatic pains may simulate labor pains, and lead to the belief that they are real labor pains when in fact they are not so."

433. What influence has an attack of rheumatism upon labour? M. Cazeaux states that it "generally retards its progress, and sometimes even renders the spontaneous expulsion of the fœtus wholly impossible. In addition to the general phenomena I have described, there are some special ones to be met with. 1st. It is well known that a normal contraction does not begin to be painful until it has accomplished the greater part of its task, and is in the act of dilating and distending the os uteri; in other words, the true pains of labor do not begin until the force of the body of the womb begins to overcome the resistance of the cervix. In rheumatism of the womb, on the contrary, the uterine contraction is painful from the commencement, and before the least power is exerted upon the neck, so that the cause of the pain is not in the violent distension of the orifice, but in the contraction itself, in other morbid circumstances, and in other relations of the nerves and contractile fibres of the womb. 2d. In natural labor the contractions commence at the fundus uteri, and are directed towards the lower segment. In rheumatism, instead of commencing at the fundus, they commence at the painful part, and run towards the cervix in an irregular manner. Again, the pain exists before the contractions of the womb; and under their influence, when they are established, acquires a high degree of intensity. Its violence sometimes arrests the contractions before they have run through their ordinary cycle. They are in such a case brisk, short, and grow less and less frequent. 3rd. Towards the close of the labor, when the action of the womb requires to be sustained by the voluntary contraction of the abdominal muscles, the woman, from fear of increasing her sufferings, refrains from contracting the abdominal muscles, which causes the labor to be excessively slow. The patient is in a state of extreme anxiety; the frequent pulse, the hot skin, the thirst, the urinary tenesmus, are much augmented. When the sufferings are too much protracted, she at last falls into a collapse (which is often a fortunate event), during which the pain is suspended. Under these circumstances a profuse sweat has been observed, which has had the happiest effect upon the rest of the labour. But in other instances, the womb grows more and more painful; it is rather in a state of permanent contraction, or fibrillar vibration, than of real contraction: the pulse becomes accelerated, and then the womb comes under the influence of a metritis, which renders the labor extremely painful."

Nor do the painful effects of rheumatism terminate with the birth of the child. The womb does not completely contract after the expulsion of the placenta, but remains larger than usual above the pubis, so that there is some danger of flooding. The after-pains are very severe and long continued, and the secretion of milk is often scanty.

434. *Diagnosis.*—1. It is of great importance to distinguish an attack of rheumatism of the uterus from inflammation; and, at first sight, it is not always easy to do so. Generally speaking, rheumatism sets in more suddenly than hysteritis, occurs more commonly in paroxysms, and the pain is more diffused. In metritis the disease is frequently partial, and the tenderness more limited. There is also more constitutional disturbance. Notwithstanding, the diagnosis, as Dr. Dewees remarks, is often very difficult. He lays some stress upon the results of the "*toucher*." "In both maladies," he says, "the *touch* is at first painful; in metritis and metro-peritonitis it is so under all circumstances; but in rheumatismus uteri, though the first touch of the womb is painful and *quick*, yet when the organ is slowly raised upwards with the index and medius, the pain either ceases wholly, or is much mitigated by taking off in this way tenesmus uteri; not so in the inflammation, where every touch is more painful the more it is prolonged."*

2. Dr. Isaac Taylor, of New York, to whose valuable essay I have already referred, thinks that it may be distinguished from *neuralgia* of the uterus, by the fact that the latter is more generally periodic in its character, the remissions being longer and more decided. The pain also is lancinating, and chiefly confined to certain points. The patient is both able and willing to move about; the abdomen is not universally tender, neither is the distress of countenance so great as in the rheumatic affection.†

3. Wigand and Dezeimeris‡ have remarked that an attack very similar in symptoms to rheumatism of the womb occasionally occurs just before labor comes on; and, notwithstanding, the labor is easy and natural. In such cases it has been concluded that the bladder, and other parts adjacent to the womb, have been affected, but not the womb itself.

4. Spurious labor pains have some resemblance to rheumatic pains, but differ from them in occasioning no pain on motion, nor any constitutional disturbance; moreover, they are temporary, and easily relieved by a purgative followed by an opiate.

435. *Prognosis.*—As far as the mother's life is concerned, the prognosis is favourable; but the suffering and general disturbance being considerable, it greatly interferes with comfort, or even health. It may also, when severe, bring on labour prematurely, or interfere with the natural powers at the time of parturition. M. Cazeaux thinks the disorder less favourable at an early than a late period of gestation.

* Trans. of Colombat on Diseases of Females, p. 291.
† Amer. Journ. of Med. Sciences, July 1845, p. 45.
‡ L'Experience, p. 144, June 1839.

436. *Treatment.*—Our principal reliance must be placed upon moderate antiphlogistic measures, aided by sedatives and diaphoretics. If there be much feverishness, or if the pain be excessive, and nothing in the patient's condition forbid it, blood may be drawn from the arm, in amount varying from 6 or 8oz. to 12 or 14oz.

After this, a gentle diaphoretic may be given at intervals during the day, and at bed-time it may be combined with an anodyne. Dover's powder answers both purposes exceedingly well. If the pain be severe, it will be necessary to give anodynes in considerable doses, and perhaps the best mode of administration is in the form of enemata. An opium or belladonna plaster to the abdomen will be found useful according to Wigand; but we must carefully avoid the impression of cold. Counter irritation to the sacrum has been recommended. The bowels must be kept free by warm gentle laxatives.

In addition to this exhibition of medicines, the patient must be warmly clothed. The bed in which she lies must be kept comfortably warm; warm flannel should be applied to the abdomen, and round the hips, and bottles of hot water or hot bricks applied to the feet. A warm drink of whey or other bland fluid should be given occasionally, especially at bed time. The diet should be light and nourishing, but without stimulants.

In a report of the Berlin Lying-in-Charity, by Professor Busch, it is stated that it had been found necessary to induce premature labor in consequence of rheumatism of the uterus. Such cases, however, must be extremely rare.

When the disease is present during labour, a modification of the foregoing treatment will be necessary; bleeding, opiates, and sudorifics, to a suitable extent, being our chief resources. If the uterine power be suspended, or the second stage unduly prolonged, it may perhaps be necessary to have recourse to artificial assistance.

After delivery, M. Cazeaux recommends "sudorific drinks, anointing the abdomen with opiated ointments, baths, leeches to the vulva, and when the lochial discharge has failed, Dover's powder."

CHAPTER VII.

INFLAMMATION OF THE UTERUS. HYSTERITIS.

437. I HAVE already described inflammation of the womb, as it occurs in the unimpregnated uterus, and must hereafter describe puerperal hysteritis; so that were it not for some practical differences, I should scarcely have thought it worth while to occupy another chapter with it. But there are some peculiarities about the disease, in pregnant women, which demand a careful notice.

As we might expect from the anatomical and physiological changes which take place after conception, and especially from the higher degree of irritability which the uterus acquires, the occurrence of inflammation is much more frequent during gestation than in the unimpregnated state, though less so than after delivery.*

It would seem that females of a sanguine temperament are most liable to its attacks.

The disease very seldom occupies the entire uterus, except in the very early months; subsequently, the more advanced the pregnancy, the more limited is the affection.†

It is generally seated in some portion of the body or fundus, often in that part to which the placenta is attached, and at a late period only, in the lower portions or cervix, owing probably to the pressure against the upper outlet of the pelvis. That this portion should be less frequently the seat of inflammation, might be anticipated from its lower degree of vascularity and irritability, and it is worthy of remark, that the os uteri is never closed in consequence.

The seat of inflammation is the muscular tissue of the womb, though the other tissues may be involved. The character of the inflammation has been variously described, but I do not know that these varieties are sufficiently ascertained to be of any practical value.

Professor Siebold remarks, that "the seat of inflammation of the impregnated uterus is either the external or internal membrane, or the muscular tissue. In the first case, the inflammation is more of an erysipelatous character; in the latter, of a rheumatic or phlegmonous. The attack also may be either idiopathic or symptomatic."‡

438. *Causes.*—Cold, mechanical injury, &c. may give rise to

* Joerg, Krankheiten des Weibes, p. 470.

† Siebold, Frauenzimmerkrankheiten, vol. ii. p. 350. Busch, Handbuch der Entbindungskunst, p. 276.

‡ Frauenzimmerkrankheiten, vol. ii. p. 350.

it; or the inflammation may extend itself from neighbouring organs.

439. *Symptoms.*—The patient complains of a severe and constant pain or stitch in some part of the abdominal tumor, limited generally to a small space; tender on pressure, increased upon walking and by the movements of the child.

The pain does not come on in paroxysms. It sometimes extends to the back and groins.

Should the inflammation occupy the lower portion of the uterus, the bladder or rectum may be affected, and dysuria or a frequent desire to void urine; diarrhœa, and pain on going to stool, be the consequence.

The constitution is often considerably affected, the pulse is quickened, the skin hot, there is much thirst, with vomiting, &c.

If the disease be very limited, the child may escape injury, and gestation be completed; but if more extended, the fœtus will probably perish in utero, or be prematurely expelled.

Unless the disease be completely cured, and the tissue of the womb restored to its healthy condition, the consequences during parturition may be very serious. Dr. Gason, of Enniskerry, informed me that he had met with three cases of inflammation attacking some part of the womb during pregnancy; and that in these three cases, rupture took place during labor in the exact spot previously diseased.*

As showing the importance of these local inflammations during pregnancy, I may quote from Dr. Edward Murphy's valuable paper on rupture of the uterus, one of his conclusions: "that in most instances where it occurs, it may be traced to morbid lesions, either previously existing, or produced by inflammation," &c.†

440. *Pathology and terminations.*—The pathological changes consequent upon inflammation of this organ are best shown by pointing out the different terminations.

1. It may terminate in resolution, and the woman go the full time, and be safely delivered.

2. It may terminate in the effusion of lymph, firmly uniting the placenta to the uterus, and after delivery, requiring its manual separation from that organ. The coincidence of the inflamed spot, and the implantation of the placenta, may be always ascertained by the stethescope, unless they be situated posteriorly. The same means may enable us to ascertain that they do not correspond, and this may relieve our minds of all fear of a retained placenta after delivery.

I may, perhaps, be excused for quoting the following case, on

* See also Dr. Spark's case, Med. Gazette, vol. iii. p. 218. Mr. Else's case, Med. Gazette, vol. ii. p. 400; and Dr. Murphy's Paper, Dublin Journal, vol. vii. pp. 210, 215, 218, 219, 222.

† Ibid. p. 228.

account of the admirable illustration it affords of the effects of inflammation:—"Mrs. M., about 30 years of age, was confined on the 6th of November, 1837, of her seventh child, after a very easy labor. In the early months of her pregnancy, she received, when in bed, a severe kick on the pubic region from one of her children, which occasioned great local pain. Within twenty-four hours, uterine action supervened, and considerable hemorrhage *per vaginam* took place on the following day. She was bled at the arm by Mr. Monteith, and underwent very active treatment, which was found necessary for allaying the inflammatory symptoms which arose, and for preventing the miscarriage with which she was threatened. She was long confined to bed, and was never free from a burning hot pain in the uterine region during the whole course of pregnancy." The child was born three hours before Mr. Renton saw her, but the placenta was retained." Externally the uterus felt very irregularly contracted, bulky, and flaccid, extending from the pubis to the *scrobiculus cordis.*" On examining internally, it was discovered that "about one-fourth of its (the placenta's) lower portion was detached, and the remaining part adhered, not closely and intimately, but by means of detached bands from below the middle, along the anterior wall of the uterus, which was puckered transversely and very irregularly, forming a striking contrast to the posterior side, which was uniformly smooth and free from contraction, firm, and greatly thickened." "The uterine bands felt like dense cellular membrane, and of the consistency of those adhesions by which the *pleura pulmonalis* is connected to the *pleura costalis* after inflammatory attacks."*

3. It may terminate in a *softening* of the tissue at the part affected, without any morbid change.†

At a meeting of the Pathological Society of Dublin, Jan. 26, 1839, "Dr. E. Kennedy presented a specimen of '*softening of the uterus*,' taken from the body of a female who died on the day of her admission into the Lying-in-Hospital, and without having presented any remarkable symptom, except pain at the upper and inner part of the thigh, where a slight redness was observable. The cæsarian section was performed, but the child was found dead, though perfectly formed. On dividing the parietes of the abdomen, the uterus appeared a deep purple, or almost black color; its texture was remarkably soft, and its mucous surface covered with grumous blood."‡

4. An *abscess* may be formed in the uterine tissue, as mentioned by

* Mr. Renton's Paper on "Adhesion of the Placenta to the Uterine Surface," in the Edin. Journal, April, 1839, p. 397. See also Denman, Merriman, Ramsbotham, &c.

† Murphy, Dublin Journal of Med. Science, vol. vii. pp. 218, 219, 222.

‡ Ibid. May, 1831, p. 290.

Siebold and Busch, which may open into the uterine cavity, or perforate the bladder or rectum, and so be evacuated by their natural outlets. It may also be effused into the abdominal cavity, and either be absorbed, or, sinking down into the pelvis, form a soft tumor between the uterus and rectum. After the escape of the matter, the abscess may heal, or it may remain an open ulcer.

5. *Gangrene.*—This is not a very frequent termination, though it occurs, and of course it is a most fatal one. It has been described by German writers under the title of Putrescenz,* or Putrescirung, of the Uterus.†

441. *Diagnosis.*—When inflammation attacks the impregnated uterus, we have the advantage (at least for the greater part of gestation) of being able to examine the affected parts manually, which we cannot do when the uterus remains of the ordinary size, and is concealed in the pelvis. This will add to the facility of diagnosis, and with other signs may enable us to detect it.

1. From *rheumatism.* Although in both there is pain and tenderness on pressure, yet in rheumatism the pain is more in paroxysms, and the tenderness less circumscribed, than in inflammation. The constitution, too, suffers more when the uterus is inflamed. The cause will also sometimes clear up the diagnosis.

2. From *peritonitis.* Should the peritoneal covering of the uterus alone be inflamed, no doubt, at first it would be difficult, if not impossible, to distinguish it from inflammation of the deeper tissues; but the peritonitis would soon spread over the abdominal viscera, instead of continuing in one limited spot; and besides, the tenderness on pressure is more superficial, and more acute in inflammation of the serous membrane, than of the muscular tissue. In general peritonitis, the tenderness is universal; whilst in the disease we are contemplating, the tenderness is quite local and limited.

3. It may be distinguished from inflammation of the other abdominal organs by its local signs, and by the absence of their peculiar symptoms.

442. *Prognosis.*—It will be necessary to give a very guarded prognosis, as some of the terminations and consequences of even circumscribed inflammation may be very serious. If, however, the placental souffle should be heard at a distance from the affected part, we shall be relieved of part of our fears; the normal connection between the uterus and placenta will not be altered.

443. *Treatment.*—The disease being most generally limited in extent, it will probably be sufficient if we apply leeches, without having recourse to venesection, though this must not be omitted if necessary.

* Ricker, Siebold's Journal für der Geburtshülfe, &c. vol. xi. p. 62

† Boer, Natürliche Geburtshülfe, &c. vol. i. p. 202.

Leeches, then, in sufficient quantity, are to be applied to the affected part, and repeated if the tenderness and pain continue.

At the same time, calomel and opium, in moderate doses, should be given; and it may be requisite sometimes to touch the gums.

Hip baths have been found useful, but our employment of them will depend a good deal upon the period of pregnancy, and the threatening of labor or not.

Anodyne clysters may be given for the relief of the pain, and for procuring rest. When the acute stage has passed, much benefit will be derived from blisters, either repeated or kept open.

Stimulating and anodyne liniments have also been recommended.

If we suspect the formation of matter, we may find it necessary to give quinine, and to support the patient's strength by nutritious diet. If the purulent deposit be in the neck of the womb, we are advised to evacuate it by the aid of Savigny's fistula knife, or Osiander's hysterotome.* If the matter escape by any other outlet, we must treat the case according to circumstances.

* Siebold's Frauenzimmerkrankheiten, vol. ii. p. 364.

SECTION II.—DISORDERS OF SYMPATHETIC IRRITATION.

444. I SHALL commence the consideration of this class of diseases with those of the chylopoietic viscera, as being the first which exhibit the disturbance occasioned by conception, and then proceed to investigate the sympathetic or reflex-irritations of the circulating, respiratory, and nervous systems, and lastly, those of the breasts.

I.—DISORDERS OF THE CHYLOPOIETIC VISCERA.

CHAPTER I.

TOOTH-ACHE. SALIVATION. CAPRICIOUS APPETITE.

445. I. TOOTHACHE.—Pain along the jaw, or in individual teeth, is of frequent occurrence with pregnant women.* It is more common in the earlier months, and with some it is the first indication of conception. I have known several cases of this kind.

Dr. Campbell observes that, "generally speaking, this is a complaint of the earlier months, but patients have attacks of it throughout the whole period of pregnancy. Sometimes it never occurs till within two or three days of the commencement of labor. This is often a purely sympathetic affection; it is excited through the influence of the uterine on the nervous system. There is not a more fertile source of tooth-ache than torpid bowels"† And M. Capuron, that "certain women suffer from tooth-ache as soon as they have conceived, and even recognize their condition by this symptom. The pain varies in degree, and at different times; sometimes dull and aching, it may

* Denman's Introduction, p. 161. Davis's Obstetric Medicine, vol. ii. p. 900. Blundell's Obstetricy, p. 201.

† Midwifery, p. 518.

disappear at intervals; at other times acute and piercing, it may continue night and day. Then the sleep is lost, the appetite diminishes, the gestation is impaired, the patient becomes feverish, and sometimes abortion occurs."*

The pain may either be continuous, with but few and short intervals, or it may occur in paroxysms. It is not true, however, as has been observed, that the pain is purely neuralgic in all cases; it is often connected with caries of the teeth. A patient of mine lost nearly all her teeth in successive pregnancies, but suffered little or nothing during the intervals. Its effects upon the comfort and well-being of the patient are often very distressing; she loses her sleep, the appetite is lessened, digestion is impaired, and if not relieved, abortion may result.

446. *Causes.*—Strictly speaking, it is no doubt one of the reflex-irritations of pregnancy, originating in the altered state of the womb, and directed, by what means we know not, upon this part.

It may arise from, or be accompanied by inflammation of the gums, or it may form a part of a general catarrhal affection.

No doubt that the presence of a carious tooth will predispose the patient to an attack. As M. Gardien has remarked: "Tooth-ache may depend upon different causes; it may be the result of plethora, or the consequence of a catarrhal affection. The state of the stomach, or an affection of some distant part, may also give rise to it. Sometimes it arises from caries, at others it is merely a dental neuralgia."†

447. *Diagnosis.* It will be of some consequence to the treatment to establish an accurate diagnosis. The point to be settled is, whether the attack be neuralgic, inflammatory, or arising from organic disease of the tooth; and to satisfy ourselves, a very careful examination of the mouth must be made, and the state of the mucous membrane of the mouth, and the general health be investigated. The probability of pregnancy, and the occurrence of tooth-ache in other pregnancies, will materially aid us in determining the character of the present attack.

448. *Treatment.* Our first object, then, is to determine the character of the complaint. If we decide that it is neuralgic, we may try any of the essential oils, as cloves, peppermint, cinnamon, &c. A little alcohol, held in the mouth at the affected side, will sometimes afford relief. Fomentations are equally useful, especially when the whole jaw is painful. The effects of opium vary a good deal—it often relieves the pain, or lessens it, but sometimes fails. Creosote is often a valuable remedy.

Gardien speaks highly of the extract of the seeds of stramonium. Dr. Blundell says, "The volatile tincture of valerian bark, and car-

* Mal. des Femmes, p. 357.

† Traitè des Accouchemens, vol. ii. p 66.

bonate of iron, are the principal remedies here. I was once called to a Greek lady, a Smyrniote, at the other end of the town, suffering violently from this disease, night after night, so that she could get no rest. All the ordinary remedies had been tried, in ordinary doses, but in vain. I gave her the volatile tincture of valerian, and bark, as largely as the stomach could bear, and with the effect of arresting the disease, so that throughout the remainder of her gestation she continued almost entirely free."*

Counter-irritation externally, by a small blister to the temple or behind the ears, is occasionally of use; though, as Gardien remarks, it not unfrequently fails in cases of neuralgia. This list of remedies might easily be lengthened, but I prefer enumerating the principal ones, and leaving it to each person's experience to modify the general principle according to the individual case. After all our endeavours, we shall find ourselves in many instances unsuccessful; but then, on the one hand, it often disappears spontaneously. "We have seen," says M. Capuron, "tooth-ache, amenable to no remedies, spontaneously disappear towards the third or fourth month of pregnancy."†

If the gum be inflamed, it will be advisable to scarify it, or to apply leeches internally or externally. When the patient is hot, restless, and feverish, moderate general bleeding has been found beneficial. The loss of blood should be followed by hot fomentations to the face, and the holding of warm water in the mouth. A purgative, with some mild medicine, according to the state of the stomach and bowels, should be exhibited.

When the tooth-ache is a consequence of a more general catarrhal affection, stimulating applications, or sialagogues, as they are termed, are useful. A small portion of the radix pyrethri, or of tobacco, or a stimulating lotion, may be used, and often with complete success. Blisters have also been recommended. If the catarrhal affection be acute or extensive, it may be necessary to commence by taking away some blood; but, generally speaking, this is unnecessary.

Many of the remedies already enumerated may be tried with carious teeth—such as the essential oils, tobacco, opium, creosote; and to them may be added nitric acid, and the application of a red hot knitting-needle to the hollow in the tooth. But if all these remedies fail, as fail they often will, are we then to extract the tooth? Some authorities decide one way, some the other. Dr. Burns says, "I have known the extraction followed in a few minutes by abortion." Dr. Blundell would not extract, because he considers the attack neuralgic. Dr. Campbell is in favour of extraction, seeing more probability of abortion in continued pain. He says: "When the tooth is carious, however no permanent advantage can be derived from any remedy

* Principles and Practice of Obstetricy, p. 201.

† Mal. des Femmes, p. 361.

but nitric acid and extraction. In a habit predisposed to abortion, it is said that the removal of a tooth is apt to occasion this accident; but I have never seen premature uterine action induced by it; while, as is well known, abortion has been excited by violent and long continued odontalgia."*

Capuron agrees with him, and so does M. Gardien—adding, however, that if after extracting two or three teeth, the pain be not relieved, we had better stop.

It is not always easy to decide in such cases; no doubt the shock of the operation may be followed by abortion, and as a general rule I would prefer that the attempt should not be made. But, on the other hand, if the pain be severe and constant, if the patient lose her rest, and the constitution sympathizes much, and no relief be afforded by the means already recommended I then should be inclined to consent, provided the tooth be really diseased.

449. II. SALIVATION.—It is difficult to explain the sympathy between the uterus and salivary apparatus, though there is abundant evidence of its existence. Salivation, though not very frequent, is yet sufficiently so to have been set down among the signs of pregnancy. It is mentioned by Hippocrates, and has been noticed since his time by Van Swieten,† Rœderer,‡ Capuron,§ Gardien,‖ Imbert,¶ Burns,** Blundell,†† Campbell,‡‡ Montgomery,§§ Dewees,‖‖ &c.

The latter author relates the following case: "We were called upon to prescribe for Mrs. J., who was advanced to the fifth month of her pregnancy. At the second month she was attacked by a profuse salivation; she discharged daily from one to three quarts of saliva, and was at the same time harassed by incessant nausea and frequent vomitings: so irritable was the stomach, that it rejected, almost instantly, anything that was put into it. She now became extremely debilitated

* Midwifery, p. 519.
† Commentaries, vol. xiii. p. 271.
‡ Elementa, p. 45.
§ Mal. des Femmes, p. 316.
‖ Mal. des Femmes, vol. ii. p. 32.
¶ Mal. des Femmes, vol. i. p. 396.
** Principles of Midwifery, p. 267.
†† "I saw a case of this sort, which strongly resembled mercurial ptyalism, but the fœtor was wanting, and the gums were not ulcerated; there was merely the high action of the salivary apparatus."—*Blundell, Princ. and Pract. of Obstetricy*, p. 202.
‡‡ Midwifery, p. 519.
§§ Signs of Pregnancy, p. 55.
‖‖ Midwifery, p. 115.

—so much so as to be unable to keep out of bed; and when she did attempt to sit up, she would almost instantly faint, if not instantly replaced. From a belief that the affection might be local, astringent gargles were freely employed, but with marked disadvantage. A large blister was next applied to the back of the neck, with decided but transient benefit—that is, the salivary discharge was less, the nausea diminished, and the vomiting less frequent; but this favourable impression was but of three or four days' duration; for after this time, all the unpleasant symptoms returned with their former severity. An emetic of ipecacuanha was now exhibited, followed by a cathartic of rhubarb and magnesia, without the smallest benefit;—soda water, lime-water and milk, milk itself, &c. were in turn unavailingly employed. We now put our patient upon a strictly animal diet, and ordered 10 drops of laudanum morning and evening, and 15 at bed-time: this plan succeeded most perfectly in the course of a few days; nausea and vomiting ceased, and the discharge was reduced to less than a pint *per diem*; and perhaps the force of habit had no inconsiderable agency in the production of this quantity. The bowels during this plan were kept open by the extract of butternut and rhubarb, in the form of pills. This lady never had any return of this complaint in her subsequent pregnancies."

It generally occurs at a very early period of gestation, and may cease or abate about the third or fourth month. It sometimes, however, continues throughout the entire period, as in one case under my care. It almost always ceases immediately after delivery, though cases are on record where it continued a month or two afterwards.*

It is possible that it may be somewhat dependant upon the constitution, though this is not clearly made out. Capuron says that it only occurs in those of nervous temperaments.

This is not the place to estimate its value as an evidence of pregnancy; I must refer the reader to my volume on midwifery.

450. *Causes.*—It appears to be an affection of the salivary glands (which are sometimes swollen and tender) principally, in which the mucous membrane of the mouth participates to a certain extent. In a case under my care, the left parotid only was affected. The gums are neither spongy nor ulcerated. The discharge is generally of the ordinary quality of the saliva, without fœtor, but sometimes the taste is unpleasant.

Dr. Dewees observes that "it almost always has an unpleasant taste, though not attended with an offensive smell; it keeps the stomach in a state of constant irritation, and not unfrequently provokes puking, especially if the saliva be tenacious, and requires an effort

* Imbert, Mal. des Femmes, vol. i. p. 396.

to discharge it. At night it is often very troublesome, interrupting sleep by the frequency of the necessity of emptying the mouth."*

The quantity varies from somewhat above the ordinary amount, to several quarts; and from the necessity of frequently emptying the mouth, it proves very annoying. I subjoin a case which illustrates this point very well. "Mrs. Davis, æt. 37, has generally enjoyed tolerably good health. She is the mother of three children, and with each pregnancy sick head-ache and salivation have troubled her. She states that with her first child, after being pregnant about one month, she became affected with head-ache, and a large quantity of clear fluid, like saliva, was continually running into her mouth, so that sometimes two or three quarts were spat out during the day. At the expiration of the fourth month, that is to say, after she had quickened, the salivation left her entirely. During the second pregnancy, precisely the same series of symptoms presented themselves, the secretion stopping immediately after quickening. The bowels were generally costive, and great thirst was complained of. No medicines were taken, for sickness prevented her retaining most things on her stomach. During this last gestation, her old complaint had troubled her more than ever; it first appeared about a month after conception. Some days she spat out as much as *four quarts*: never so little as *two quarts*. The quantity averages, indeed, somewhere about *three quarts* daily. After quickening, a diminution took place; no complete cessation, however, was observed, and even during her labour, a pocket-handkerchief was constantly used to absorb the fluid. Immediately after the child was born, the salivation ceased; no vestige of it remains, and she is now quite well in every respect." "The salivation was not produced by any therapeutical agent. The gums were not spongy, neither was the breath offensive."†

When the discharge is moderate, the patient suffers merely inconvenience; but when excessive and long continued, the stomach is weakened and irritated, and sometimes evacuates its contents. The patient complains of weakness, and acidity of stomach. Constipation is very frequently an accompaniment.

451. *Diagnosis.*—The only error in diagnosis into which we could fall, would be that of mistaking the salivation caused by pregnancy for that caused by mercury. The distinction is sufficiently clear in the disease I have been describing; the gums are neither sore, spongy, nor ulcerated, nor is there any fœtor from the mouth. The patient being pregnant will also serve to clear up the diagnosis.

452. *Treatment.*—By several writers, especially the French, we are cautioned against employing any remedies for the purpose of restraining or suppressing the discharge; and Baudelocque relates a case of a lady

* Compendium of Midwifery, p. 115.

† Case by Mr. Gorham, (London) in *Medical Gazette*, June 30, 1838.

in whom the suppression was followed by apoplexy.* Murat† and Capuron‡ adopt M. Baudelocque's opinion, and merely recommend attention to the bowels. The most recent French author has adopted a somewhat different opinion. "The flow of saliva," says M. Imbert, "if not in excess, may be left to nature, but not so if it derange digestion, and weaken the patient."§

"It is scarcely necessary in any instance to interfere; but when a practitioner is importuned, from four to six leeches should be applied at different points, from ear to ear; a dose of some mild laxative medicine, such as the pulv. rhæi, should be administered every alternate day: while stimuli, whether condiments, food, or cordials, are to be carefully avoided. As a refrigerant and astringent, ten grains of the nitras potassæ in two ounces of water may be ordered once in four hours."‖

Of the safety of interfering to this extent, there can be no question, according to the best evidence we possess. Professor Burns speaks very highly of counter-irritation, which I have found very useful. A blister may be applied to the back of the neck, or behind one or both ears.

Gargles of camomile or spearmint infusion are advised by Gardien.¶ Dr. Fahnestock, of Pennsylvania, recommends an infusion of the inner bark of the rhus glabrum, or sumach, as the best remedy.** Dr. Geddings, of Charleston, has found the following remedy generally efficacious:

"℞ Mucilag: Acaciæ ℥viii.
Ol. Terebinth: ℥ii.
M. Usurpetur pro gargarismate, frequenter in die."††

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* "Baudelocque disait dans ses leçons, avoir connu une jeune dame qui eut une salivation abondante á sa premiere grossesse, sans qu'elle perdit rien de son enbonpoint. MM. Bouvart et Baudelocque furent long temps pressès par la famille pour l'arreter: ils se refuserent constamment. Le ptyalisme ne cessa qu' à l'epoque de l'accouchement. A la seconde grossesse, la salivation se manifesta de nouveau. Bouvart etait mort, et on appela un autre medicin et un autre accoucheur, qui arreterent la salivation. Le lendemain cette dame fut frappèe d'apoplexie."—*Imbert, Mal. des Femmes*, vol. i. p. 397.

† Dict. de Med. vol. xix. p. 450.

‡ "Ce seroit une imprudence que de conseiller les astringens pour moderer cette excês de salivation, chez une femme enciente. Il suffit de tenir le ventre libre par des boissons delayantes, par des lavemens, ou par quelques sels cathartiques."—*Capuron, Mal. des Femmes*, p. 362.

§ Mal. des Femmes, vol. i. p. 397.

‖ Campbell's Midwifery, p. 519.

¶ Traitè des Accouchemens, vol. ii. p. 32.

** *Lond. Med. and Surg. Journ.* vol. iv. 1830.

†† Ryan's Manual of Midwifery, p. 428.

Should the discharge prove obstinate, we may try any of the usual remedies against mercurial salivation; but in spite of all our efforts, it will often persist until it either abates, or ceases spontaneously at a later period of gestation, or at its termination.

453. III. FASTIDIOUS TASTE AND CAPRICIOUS APPETITE.—That the functions of an organ so sensitive as the stomach, and so closely connected by sympathy with the uterus, should be variously disturbed, is only what might be expected. In the earlier months, when the sympathetic irritation is most marked, the appetite diminishes, or is altogether lost, and the patient becomes weak and emaciated; but after the third or fourth month, when the stomach is less disturbed, the appetite generally returns, and in some cases becomes voracious.

But a more remarkable peculiarity, and one less explicable, is the depravation of appetite we sometimes meet with, when the patient either utterly repudiates articles of diet of which she was previously fond,* or acquires tastes repugnant to her previous habits, or even to common sense. The older writers abound in curious stories of these *longings*, as they are termed, of pregnant women; nor are they unknown in modern times. Roderick à Castro relates a case of a woman who took a fancy to a bite of a baker's shoulder, nor could she be satisfied until the baker's consent was purchased. Langiers mentions a woman whose husband was the object of her depraved appetite, and to gratify herself she killed him, and having made a meal of part, she salted the rest. Others have devoured chalk, broken stones, pepper, ginger, brown paper.

For example, the following cases are given by Drs. Dewees, Merriman, and Montgomery:—"We formerly attended a lady with several

* "For example, some persons, while pregnant, consider raw oysters a great relish, though previously to gestation they could not bear them; others during gravidity cannot take cheese, though fond of it previously; some pregnant females express a vehement desire for fruit out of season, which was never longed for when it might have been procured."—*Campbell's Midwifery*, p. 522. *Blundell's Obstetricy*, p. 166.

"Strange appetites and fancies are well known as frequent attendants on pregnancy in many persons, some of whom will long to eat unusual and even revolting articles, while others, immediately after conception, are seized with an unconquerable aversion to species of food which were previously particularly agreeable to them. I have seen several well-marked instances of this, and in particular one in the case of a lady, who assured me that she always knew when she was with child by feeling a violent antipathy to wine and tea, which at other times she took with pleasure."—*Montgomery, Signs of Pregnancy*, p. 151.

children, who was in the constant habit of eating chalk during her whole time of pregnancy: she used it in such excessive quantities, as to render the bowels almost useless. We have known her many times not to have an evacuation for ten and twelve days together, and then only procured by enemata; and the stools were literally nothing but chalk. Her calculation, we well remember, was *three half pecks* for each pregnancy. She became as white nearly as the substance itself, and it eventually destroyed her, by deranging her stomach so much that it would retain nothing whatever upon it."*

"A young woman, married to a ginger-bread maker, took a fancy, during her first pregnancy, to chew ginger. The quantity of this spice which she thus consumed was estimated at several pounds. She went her full time, and had a favorable labor, but the child was small and meagre; its skin was discolored and rough, much resembling the furfuraceous disquamation that takes place after scarlatina. The child continued in an ill state of health for several weeks, and then died. She had several children afterwards, all healthy and vigorous. The inclination for ginger only prevailed with her first infant." Dr. Merriman relates the case of another patient, who took a fancy for gin and water, which she drank in large quantities. "The child was small and lanky, its voice was weak, its face wrinkled and ghastly, and its belly collapsed: its skin was mahogany-colored, and hung in folds all over its body." It died in convulsions.†

"The writer lately attended, with Dr. Evanson and Dr. Alcock, the post mortem examination of a child which had lived only nine weeks. At birth an unusual fulness was observed about the perineum and anus, which increased rapidly until these parts became greatly protruded, and a tumor was formed, of the size of a very large orange. Convulsions came on, and the child died after much suffering. The tumor, on examination, was a perfect specimen of fungus hæmatodes, and the earliest instance of the disease known to the writer. In this case the mother had indulged, during all the time of her pregnancy, in continually eating brown paper. She had done the same in her former pregnancy, which was her first, and the child was still-born under a foot presentation. I cannot of course undertake to assert that there was certainly a connexion between the effect observed in the child and the depraved appetite of the mother; but the fact appeared to me sufficiently remarkable to be noticed."‡

Some of the cases which are on record are doubtless fabulous, but the others abundantly establish the fact of these extraordinary tastes during gestation, and that they are occasionally carried to such excess as to constitute monomania. The indulgence with which all persons regard

* Dewees' Comp. of Midwifery, p. 113.

† Synopsis, p. 321.

‡ Montgomery, Signs of Pregnancy, p. 151.

pregnant females, together with the belief that an ungratified wish would injure the child, or at least impress an image of the thing longed for upon some part of its body, has led to the unlimited gratification of these desires.

Dr. Denman informs us that "in the early part of my own life, nothing was more common than to hear of innumerable examples of the dreadful events which were caused by disappointed longing; or to see instances of the great confusion and distress in families, from a persuasion of its importance. But at the present time, and in this country, the term longing is seldom mentioned, except among the lowest class of people; though the cause, if any had existed, must have produced its effects at all times, and in all situations."*

It is worthy of notice that these disgusts are not excited after experience of the offensive matters, but are formed without tasting; and are in fact owing to a vitiated taste in the stomach, and not in consequence of any unpleasant effects produced by them.†

These caprices seem peculiar to the early months of pregnancy; they subside gradually, and rarely continue after the fourth month.

454. *Causes.*—The earliest opinion attributes these disorders to a plethora occasioned by the suppression of the menses; others to the sympathy between the uterus and the stomach; or to the irritation of the nervous system excited by the pregnant uterus, and transmitted to the stomach; and though this expresses the fact accurately enough, yet it is far from satisfactory as an explanation. We may say, in the words of M. Capuron, "Mais cet sympathie n'est-elle au fond qu'un mot qui cache la defaite des physiologistes, ou plutot leur ignorance sur la cause des phènomènes de l'organisme?"

M. Imbert has divided the disorder into three species, according to the proximate cause, viz.- 1. "Pica nerveuse." 2. "Pica gastro-intestinale." 3. "Pica plethorique." In some cases he thinks it is scarcely a disease, but an instinct of nature, directing the patient to matters which are required for the nourishment of the fœtus. I have already quoted M. Gardien's opinion, that it is not from sympathy, but from the actual state of the stomach itself. This variance of opinion will at least show the difficulty of explaining the cause of such caprices; nor, while I feel the insufficiency of all that has been offered (except as varied expressions of the same fact), have I any thing better to substitute. In the present state of our science, a confession of ignorance is often the first step to knowledge.

455. *Symptoms.*—The disorder itself, as already described, is the most prominent symptom; but the disgust at ordinary food, and the desire for extraordinary substances, is generally accompanied with other evidences of deranged stomach. The tongue is loaded, the

* Introd. to Midwifery, p. 154.

† Kennedy on the Evidences of Pregnancy, p. 20.

mouth filled with viscid saliva, and there are frequent eructations of glairy fluid. The patient is languid and dejected.* As a proof that the secretions of the stomach are vitiated, M. Gardien mentions that inflammation, corrosion, and perforation of that organ have been discovered after death.

A very important question arises in these cases, as to the extent to which they may affect the child. Few professional men at the present day are disposed to believe the stories told of "mother's marks" of gooseberries, currants, grapes, &c.; but though our incredulity may be justified so far, we can scarcely suppose that a fœtus may be as well nourished upon chalk, or brown paper, as upon ordinary diet. These conclusions are, I think, justified by the state of the children in several of the cases related.

456. *Treatment.*—The effects produced on the health of both mother and child are quite sufficient to show, that in yielding to these extreme fancies and caprices, we are incurring mischief instead of avoiding it, and it will consequently be our duty to oppose it firmly: or, in the words of Dr. Merriman, "These cases tend to prove what no man who has had opportunities of observation has ever doubted, that the popular doctrine is false and indefensible, which teaches that pregnant women should be allowed to indulge all the capriciousness and wanton absurdities of their appetites; it being most certain, that however safe and uninjurious some of the articles of diet longed for may be, others cannot be taken without danger of hurting either mother or child."† As to the distaste for certain articles of diet, this may be gratified by avoiding them, as no harm can result. The remedies necessary must be regulated by the period of pregnancy, the temperament of the patient, and her habits. Very little medicine is necessary, the bowels should be kept free, and a light, bitter infusion may be given. Venesection has been recommended in robust women, and baths. Opium and ether have also been found useful. Should the secretions of the stomach be acid, some antacid or absorbent medicines may be exhibited, though I think few will agree to take a passion for eating chalk, plaster, &c. as a natural indication for this line of treatment.

* "These (caprices) commonly discover themselves by an air of pensiveness and dejection in the mother; are often very absurd, but entirely involuntary; and the woman generally continues anxious and uneasy till she has obtained her wishes. Whilst women are under the influence of these desires, all reasoning is thrown away upon them; and therefore, when the wished for object can be procured, it will be proper to gratify them, as abortion has often been the consequence of a disappointment."—*Manning on Female Diseases*, p. 305.

† Synopsis of Difficult Parturition, p. 321.

The diet should be bland and nutritious, biscuit being preferable to bread, and the patient should take plenty of exercise in the fresh air.

Should all our efforts fail, we need not be altogether discouraged—a little time may effect that which we are unable to do. Most of these fancies abate or disappear after the third or fourth month.

CHAPTER II.

NAUSEA AND VOMITING

457. IN a former chapter, irritability of the stomach has been mentioned as holding a prominent place among the organic sympathies excited by the pregnant uterus. This is shown by the nausea or vomiting which occur during gestation, and which, from the time at which the attack ordinarily takes place, has been termed the "morning sickness," and is popularly considered as a strong evidence of conception. With regard to the period of pregnancy, and the time of the day at which it occurs, there is considerable uncertainty. Generally speaking, about the fourth or sixth week the patient finds her stomach uncomfortable; and on rising in the morning, this discomfort amounts to nausea or vomiting, and efforts are made to evacuate the stomach. Whether successful or not, this state lasts from ten minutes to an hour, and then ceases; and the patient descends to her breakfast, of which she partakes without diminution of appetite, and without subsequent distress. These attacks are renewed every morning, with more or less intensity, for a period of six weeks, or two months, and then they gradually subside, leaving behind them no ill effects.

This may be taken as the description of an ordinary and favorable case; but from this type there are many deviations, some of which I shall notice.

1. In some cases vomiting never comes on at all; many such have occurred to me, and must be familiar to all practitioners.

In others it commences very soon after conception. De la Motte mentions that he has known it commence from the day of conception,* and Van Swieten has a similar case. Dr. Montgomery says, "I had once a lady under my care, in whom there was reason to believe that it began the day after conception, and the date of her labor corresponded to such belief. More recently I attended a patient who was married

on Monday, and began to be squeamish on Saturday: her delivery took place within nine months."*

3. On the other hand, it may not begin until the two or three latter months of gestation, which is attributed by Gardien to the peculiar position of the womb. He observes, "vomiting occurs sometimes about the seventh month in those women in whom the uterus is very perpendicular, ('qui portent leur enfant fort haut,') owing to compression of the stomach by this viscus, and this does not usually cease until delivery."†

4. Instead of the patient becoming sick on first rising from her bed, I have known it not to come on until after a meal, and in some cases not until bed-time: in these latter, the sickness continued all night, the patient being pretty well during the day.

5. Again, the *morning* sickness may continue during the whole period of gestation.

6. Lastly, the sickness may commence in the morning, and continue *throughout* the entire day, and be prolonged beyond the usual time for its cessation; in some cases even to the end of gestation.

With the exception of the two last classes, these deviations are comparatively of little importance. I have frequently remarked, however, that when the occurrence of vomiting is irregular, other irregularities occur, as, for instance, the period of quickening.

458. But when the irritability of the stomach is extreme and persistent, so as to render it intolerant of food, the case assumes a very different aspect, and may involve serious consequences. The deprivation of nutrition would of itself be a serious loss to a pregnant female; but if we add the presence of constant irritation, there will result a series of constitutional symptoms which we do not find in ordinary cases, and their severity will bear some proportion to the constancy of the vomiting.

Thus, we find these patients become extremely emaciated, exhausted, and depressed, the eyes sunken, the cheeks fallen, and the strength and spirits gone. The pulse is generally permanently quickened, but weak; the tongue dry and furred; the appetite changed to a loathing of all food, and the bowels costive. There is an expression of intense suffering and misery in the patient's countenance, graphically illustrative of her condition.

The fluid vomited varies very much; it may be thin, watery, and glairy; or yellow, green, blue, or blackish; depending doubtless upon the peculiar condition of the mucous membrane.

Now this excessive vomiting may continue any length of time; in some cases it ceases spontaneously, or, as Dr. Burns mentions, after the death of the fœtus, though this is by no means always the case;

* Signs of Pregnancy, p. 53.
† Traitè des Accouch. vol. ii. p. 49.

or it may continue to the end of gestation, if labor do not occur previously, and if the patient's strength hold out.

But in some cases, if it do not cease, the patient's constitution gives way, and the results are most serious, nay, even fatal, before the completion of gestation. The patient may either die of exhaustion, or be carried off suddenly. I shall adduce some of the cases on record.

The particulars of a very interesting case are given by Dr. Davis, from Dr. Haighton's notes:—"Some time ago I was applied to by a lady in the city. In her first and second pregnancy, the sickness was so obstinate that nothing could relieve it but delivery. In one of her gestations she went her full time; in another, only to the seventh month; but on both occasions she was equally relieved by delivery. In her second pregnancy, the vomiting had not been extremely violent. When I saw her, it was her fourth pregnancy, and about the sixth month of gestation. The practitioner who attended her had treated her very properly, but without success. I ordered something, but it had no better effect. She was removed into the country, but she went no further than Islington, and she returned without receiving any benefit. She was then in her seventh month—her sickness grew worse, but it underwent some changes; for sometimes it would be very violent, and then it would intermit. The intermission, however, would last but a short time, and then it would end in a violent diarrhœa; and if means were used to stop the looseness, then the sickness immediately returned. In this way she went on until she was very much reduced. During a few days in the progress of this exhaustion, I observed that her strength declined much faster than before; I therefore expressed to her mother my wish to be permitted to invite a tendency to labor. No obstacle was thrown in my way. I put her into a hip bath, but this increased her symptoms, without producing the effect I hoped from it. It was now the middle of the seventh month, and I saw that she could not live till the ninth. I therefore proposed to bring on premature labor; but, not liking to take the whole of the responsibility on myself, I desired the friends to send for some respectable person to meet me. The gentleman who came fell readily into my ideas, but did not see that the danger was so pressing. He therefore thought it better to wait for a fortnight longer. Seeing that this was the only point with him, I urged my own opinion with this argument, viz., which was most likely to estimate the danger correctly? *he*, who taken a transient view of the case; or *I*, who had watched it day after day? He allowed the strength of the argument, but said he would turn it over in his mind, and meet me again in the evening. At this time, unluckily for the patient, she had retained about half a pound of nourishment, and the sickness had not increased. He thought it proper, therefore, again to defer the operation, although I explained that this was only one of those delusive intervals which terminated in diarrhœa. So indeed it proved; for the next day she was exceedingly ill. I now told him,

if he had not made up his mind, that I had. I added, that if he chose to undertake the bringing on of premature labor he might; but I thought the time was past; and so did he. In two days more the patient sunk. Now, I do not think it right to say that this woman would have recovered if premature labor had been brought on in proper time; but it is my opinion, that it would have given her a great chance."*

Dr. Ashwell mentions a case related to him by Dr. Marshall Hall, which terminated fatally in the seventh month, in spite of the most judicious treatment.†

The following interesting cases, related by M. Dance, I have taken from the Medico-Chirurgical Review‡:—

Case I.—"Sophy Pepin, æt. 21, meagre, nervous, and irritable, entered the Hotel Dieu, April 15, 1826. Three months and more previously, the catamenia had stopped, and soon afterwards she was affected with weight and pain in the epigastrium, and considerable derangement of the general health. During the preceding two months she was harassed with almost constant vomiting of every thing she took, liquid or solid, attended with rapid emaciation. Yet her tongue was clean and moist, without any redness at the sides. The physician who attended her in the city never perceived any febrile movement in the system. The epigastrium was now devoid of tenderness on pressure, and only a pulsation rather more than natural could be felt, sleep interrupted, habitual constipation, vomiting both night and day indifferently, preceded by a disagreeable sensation of twisting in the epigastrium. The matters ejected were often of a greenish or limpid character, and small in quantity. The patient did not think herself pregnant, and there was no enlargement of the hypogastric region. Leeches—ice, externally and internally - and various other means, had been tried in vain to stop the vomiting. The anti-emetic draught of Riverius was tried on the 16th at the hospital, but ineffectually; opium plaster was applied to the pit of the stomach, with as little success. Twenty other remedies, including leeches and blisters, were put in requisition, without having the slightest effect in checking the vomiting. By the end of May emaciation had made great progress, and now the hypogastrium began to become prominent, and pregnancy was ascertained to exist. On the 2nd of June this afflicted creature ceased to suffer.

"*Dissection.*—No lesion could be detected in the stomach, except a slight reddish tint in the mucous membrane. The whole of the intestinal tube was sound. The uterus rose a few inches above the pubes, and its parietes were preternaturally soft and flabby, but with-

* Obstetric Med. vol. ii. p. 871.

† On Parturition, p. 194.

‡ Vol. viii. p. 149, new series, 1829.

out any other appreciable change of structure. The membranes of the fœtus were transparent throughout; but between these and the uterus there were false membranes, forming a layer some lines in thickness, exactly resembling those found between the pleuræ after inflammation. The same was found between the placenta and the uterus, but more of a purulent character."

Case 2nd. "Aglàe Leroy, æt. 20 years, not married, became irregular in her menstruation in Nov. 1824, and soon afterwards was troubled with sickness, malaise, cephalalgia, and vomiting of bilious matters. She entered the Hotel Dieu, Dec. 30, 1824, and at this time she was suspected to be pregnant. The vomitings were very frequent, and there was some pain on pressure of the epigastrium, but no fever. The tongue was moist, and slightly red at the sides. She was cupped on the epigastrium, but without any benefit. Various means were employed to allay the vomiting, but they were attended with only temporary relief. In the beginning of February the sickness was as bad as ever. Her stomach would retain no kind of food, and she expired, exhausted, on the 13th of the same month.

"*Dissection.*—The emaciation was great; no appreciable lesion in the head or thorax; some red and softened spots near the cardiac orifice of the stomach. The uterus rose some inches above the pubes, and its parietes were exceedingly thin—scarcely a line and a half in thickness. They were also very soft, and gorged with blood. The membranes were transparent; the embryo appeared to be about three months old; and there was no other appearance of disease."

I copy the following case from the *Lancet*:—"A lady, æt. 30, soon after marriage ceased to menstruate, and became affected with morning sickness, which symptoms were naturally enough attributed to pregnancy. The sickness, however, gradually became worse, and at last nothing of any kind could be retained on the stomach. Pregnancy was not detected, but the disorder attributed to some disease of the pylorus. The sickness and extreme emaciation were the only symptoms present. After death, no morbid appearances were observable in any part of the body. The uterus contained a fœtus about four months old. This patient was literally starved to death." "The treatment pursued consisted of the use of various salines, anti-emetics, counter-irritation, leeches, acetate of morphia sprinkled over a blistered surface, &c.

I have no doubt that many similar cases might be adduced, but I shall only add one which has recently occurred to myself. The amount of the sickness was not so great as in many I have seen, but the fatal termination was both sudden and inexplicable. The lady, aged about 40, had previously borne five children, and was about four months pregnant. From an early period she had suffered much from sickness, which continued throughout the day, and prevented her from taking food. She had intervals, however, of comparative freedom, and was by no means excessively reduced. After an interval of

this kind, the sickness returned with some violence for several hours, in the midst of which she was suddenly seized with collapse, the vomiting ceased, the pulse became very small and rapid, the surface cold, the lips remaining red, but in other respects the face resembled that of a cholera patient. Under the use of powerful stimulants she rallied considerably, and for some days seemed to be recovering, and the sickness returned; but again she suddenly collapsed, and died. A day or two after the first collapse, the uterus very quietly expelled its contents without hemorrhage. I regretted much not being able to obtain a post mortem examination, which would probably have explained the cause of death, which I am utterly unable to do without it. It was not internal hemorrhage, as I at first thought, for the uterus contracted well, and expelled the placenta without clots; nor the rupture of an abdominal organ, for no peritonitis followed; nor disease of the heart; at least neither percussion nor the stethoscope yielded any abnormal sounds in the chest; nor excessive exhaustion, for she was but slightly reduced. There was no hernia, and the integrity of the intellect precluded the supposition of cerebral disease.

Although our ignorance of the cause of death does not permit us to derive the full practical benefit of such a case, yet I think it may be useful to record it, as showing that sudden death without apparent cause is among the possibilities in patients afflicted with excessive vomiting.

459. *Causes.*—In the milder cases the vomiting is simply owing to the sympathy with, or reflex irritation from the gravid uterus; the condition of the stomach is healthy in most cases. Temperament will doubtless have much influence. A plethoric condition has been supposed to give rise to it. Carus says, "A second cause, often combined with the former, is overfulness of the portal system, in consequence of the increased vascular action of the genital system, which plethoric condition often gives rise to inflammatory affections."

When the vomiting comes on, especially for the first time, towards the end of pregnancy, it is probably owing partly to reflex irritation, and partly to mechanical pressure of the gravid uterus upon the stomach. Siebold,* Carus,† and some other writers, have supposed that in aggravated cases of vomiting the stomach becomes inflamed; but if we may judge from the cases I have quoted, this does not appear to be correct.

How far obstinate vomiting may depend upon an abnormal condition of the uterus we have scarcely the means of deciding. Dr. Burns observes: "Obstinate vomiting has also appeared to proceed from a morbid condition of the uterus, which after death has been found slightly inflamed; or even pus has been found between the surface of

* Frauenzimmerkrankheiten, vol. ii. p. 10.

† Gynæcologie, vol. ii. p. 198.

the uterus and membranes, although during life no pain was felt in the uterine region. The parietes are soft, the uterus flaccid, with an exudation of fibrin in some places between the uterus and decidua. The stomach is sound, and seldom has been pained."*

In one of Mr. Dance's cases he found the parietes of the uterus "præternaturally soft and flabby, but without any other appreciable change of structure;" whilst between the fœtal membranes and the uterus "there were some false membranes, forming a layer some lines in thickness, exactly resembling those found between the pleuræ after inflammation. The same was found between the placenta and the uterus, but of a more purulent character." In the other case, the parietes of the uterus were extremely thin, scarcely a line and a half in thickness. They were also very soft, and gorged with blood, but there was no false membrane.

From these, and similar cases, we may consider it established that a patient may die from the effects of aggravated vomiting, without evidence of sufficient organic disease to cause death.

Among the occasional exciting causes we may place bad smells,† peculiar odours, shocks, frights, and indigestible food, or a torpid state of the bowels.‡ We can scarcely, I think, attribute it to the secretions of the stomach.

460. *Symptoms.*—The cases I have related give such graphic pictures of the symptoms of aggravated vomiting, that I need hardly recapitulate them here. Exhaustion, depression amounting to agony, uncontrollable restlessness, incessant retching, emaciation, quick small pulse, loss of sleep and rest, with a countenance expressive of misery and weakness; these in various degrees are to be observed increasing as the patient advances towards a fatal termination.

461. *Diagnosis.*—The first point to be ascertained in any case of repeated vomiting is, whether it arise from pregnancy or disease. Its occurrence only in the morning, with the absence of the menses, and an alteration in the areola and nipple, will afford good grounds of suspicion, though not of absolute proof. When the vomiting is very frequent and obstinate, without other evidence of disease of the stomach, but with such signs of conception as are developed according

* Midwifery, p. 254.

† "Dr. Lowder had a patient who was effectually relieved by removing from the factory of her husband, a coachmaker; for when she became pregnant, the smell of the paint continually excited the stomach."—*Blundell's Obstetricy*, p. 187.

‡ "These affections chiefly arise from the influence of the uterus, in a high state of irritation, on the stomach; and another very fertile source of nausea and vomiting in the gravid state is torpor of the bowels; to which we may certainly add indulgence in liquids and vegetables."—*Campbell's Midwifery*, p. 520.

to the supposed period of pregnancy, we shall have good ground for treating the case as dependant upon gestation. The resistance to ordinary remedies is also significant, and I think, to an experienced eye, the aspect of the case is different in the vomiting from pregnancy, and in that from disease, and almost characteristic. As to its positive and relative value as a sign of pregnancy, I must refer the reader to works upon the subject; I have only to treat of it as a disease.

462. *Treatment.*—The choice of remedies will depend very much upon the constitution of the woman, upon the amount of the disorder and upon the period of pregnancy. In slight cases, at an early period, no treatment will be necessary; and even when more severe, it may be wise often to try the effect of time, inasmuch as in the majority of cases it ceases after the third or fourth month. It is probable that when the stomach is disturbed by its contents, or the ingesta are of an indigestible character, a moderate degree of vomiting may be beneficial. Nausea is so much more distressing than vomiting, that in such cases Denman and Blundell advise us to give a gentle emetic.

If at any period of pregnancy the vomiting be so excessive as to call for our interference, and the patient be of a plethoric habit, there can be no question of the propriety of venesection: but in most cases this can only be done at an early period of the vomiting, as by its continuance the patient is so much reduced as to prohibit this remedy.

Mauriceau relates a case of violent vomitings, accompanied by a kind of convulsive movement, in the second month of pregnancy "The patient was of a sanguineous disposition. She had formerly aborted, and had had a false conception the year before. She was now bled at the arm, and she went on to her full time, and was safely delivered." In another case, the vomiting occurred in the ninth month of pregnancy, and was cured by bleeding from the arm twice, succeeded by opiates and soothing 'lavemens.'*

Smellie relates several cases. "In about four months after this accident, the same woman became pregnant, and being attacked with sickness at her stomach, and retchings in her second month, Dr Smellie was requested to see her. Finding that she had exceeded her usual catamenial period, he ordered her to lose 8oz. of blood from the arm. The vomiting was immediately relieved. From this time forward, till about the middle of the fifth month, venaesection was repeated every four weeks, with the same success; and she happily went on to her full time."†

Manning recommends this particularly at the menstrual periods.

Dr. Burns observes: "Of the utility of this practice, the general testimony of practitioners, and my own observation, fully convince me.

* Mal. des Femmes Grosses, vol. ii. pp. 21, 310.

† Cases in Midwifery vol. ii. pp. 83, 84.

It does good by relieving that state of the origin of the eighth pair of nerves, which occasions the irritability of the stomach, just as it would abate vomiting on other more formidable cerebral affections. It also acts on the sympathetic nerve, the cœliac plexus of which sympathizes with the uterine."*

Dr. Campbell states: "As the irritability which prevails during the early months must be ascribed to suppression of an accustomed evacuation, so the most effectual mode of relieving it is by venæsection. If the patient can support blood-letting, or have no objection to it, from 4 to 6oz. should be taken from the arm monthly, at or near the period when the menses should have appeared. When the individual is too delicate to bear phlebotomy, or has a dislike to it, let an adequate number of leeches be applied either to the epigastric region, or the groins."†

Small and repeated bleedings are preferable to the abstraction of a large quantity at once. If venæsection be objectionable, leeches may be applied to the epigastrium.

Gentle purgatives should be given, so as to keep up a constant action of the bowels, especially if there be evidence of irritating matters being retained in the intestines.

Benefit is frequently derived from counter-irritation to the epigastrium, by means of a blister, turpentine, or mustard poultice.

M. Bretonneau has found great benefit from friction to the abdomen, with an ointment composed of one-fifth part of belladonna.‡

If the sickness be not very severe, effervescing draughts will occasionally afford relief. If necessary, a few drops of laudanum may be given with each.

Narcotics and opiates are frequently successful, and especially after bloodletting; but their constipating effect must be corrected by enemata or cathartics. A very useful method of exhibiting laudanum is by wetting a cloth with it, and applying that to the stomach. Dr. Heberden states, that "the application of a piece of folded cloth, moistened with laudanum, to the region of the stomach, has been of considerable service when internal medicines of the highest estimation have proved ineffectual." Or the opium may be given in an enema of starch or warm water. Denman has thrown out a doubt as to the effect upon the fœtus: but I have not met with any cases which confirm his view.

Professor Simpson succeeded in arresting the vomiting by the inhalation of the vapor of laudanum.§

Various kinds of antispasmodic remedies have been tried, but with-

* Midwifery, p. 253.
† Midwifery, p. 521.
‡ Bull. de Therapeutique, Aug. 1846.
§ Monthly Journal, Ap. 1847.

out much benefit; in fact, it would be as useless as difficult to enumerate all the remedies that have been employed, and often in vain, against this distressing complaint.

When the ejected matter is acid, charcoal and other alkaline substances are found useful; and if these fail, acids may be tried.

Dr. Dewees thus states his experience: "We rarely persevere in the use of the alkaline remedies, when we find that considerable doses will scarcely have a temporary effect. When this is the case, we have recourse to the acids themselves for the relief of this most distressing state of the stomach. Both vegetable and mineral have been employed by us, with about perhaps equal success; but the vegetable will merit the preference in general, on account of the teeth. We have in several instances confined the patients for days together to lemon juice and water, with the most decided advantage." "One lady, a patient of ours, took the juice of a dozen lemons daily, for many days together, with the most decided advantage, and no earthly thing besides."*

With regard to the charcoal, Dr. Blundell observes: "It seems *a priori* not very probable that powdered charcoal can be of use in these cases, but learning from a friend, that in the hospital in New York it had been tried in vomiting with advantage, I was induced to give it an '*essai*:' and I can at least aver that I have seen no ill effects from it, not to add that it seemed to be of real efficacy. The method of administering it is in the form of a very fine powder, twenty grains every two or three hours, till it has produced an effect. I ought to observe, that it makes the stools very black."†

Prussic acid has been tried, and successfully, in doses of from two to five drops, in mucilage, several times in the course of the day, and is recommended by Waller and Blundell. Slight bitters, especially infusion of Columba, are occasionally beneficial. Spearmint tea is also recommended by Manning. Iced water will sometimes check the vomiting, and in most cases it is extremely grateful.

In all cases the diet should be of the lightest kind, without stimulants, and taken in very small quantities at a time, and at that time of day when the stomach is least irritable. It may be necessary to diminish the quantity to the very least sufficient for nourishment; or even to nourish patients by enemata.

"Hildanus has reported the case of a woman, who, from irritability of the stomach, rejected all food during the space of five weeks; but she was supported the whole time in the way above intimated (by enemata), being cured, and becoming at length the mother of a vigorous infant."‡

* Compendium of Midwifery, p. 111.
† Princ. and Practice of Obstetricy, p. 178.
‡ Ibid. p. 180.

"We do occasionally meet with severe and alarming cases of continued vomiting," observes Dr. Ashwell, "where it is necessary to maintain an almost entirely empty state of the stomach, nourishment being by glysters of beef-tea and jelly. In one of these instances, after having given opium, I ordered a tea-spoonful of lime-water, or soda-water and milk, every ten minutes. In the course of the day the lime-water was omitted, and the quantity of milk increased, till at length the stomach could retain small quantities of solid food. Small doses of the calcined magnesia, taken two or three times daily in milk, will frequently relieve the sickness, by inducing an aperient state of the bowels. A few leeches to the pit of the stomach, followed by a small blister or opium plaster, will occasionally produce much good."* Patients obtain a great diminution of their distress by preserving the horizontal position.

If the stomach should exhibit symptoms of inflammation, it must be treated in the ordinary antiphlogistic manner, by venesection, or leeches and blisters—due regard being had to the state of the patient; and the same may be employed when the liver takes on inflammatory action, as is not very uncommon.

Should the vomiting, occurring in the latter months, be principally or wholly the result of pressure, we are advised to use bandages, so as to depress the uterus; but this would be very hazardous; the same effects may generally be obtained by change of position.

468. The mere enumeration of the various modes of treatment is a proof of the difficulty of combating the disease. In some cases we shall fully succeed; in others, afford some temporary relief: but in many, utterly fail. These latter cases are generally those in which the vomiting is most violent and incessant; and by these, consequently, the patient is most injured. Exhausted by the constant effort, and wasted by the incapability of retaining nourishment, the patient has no prospect but death to herself and child.

Such being the case, I conceive that we are perfectly justified in having recourse to any measure which does not compromise the life of the mother, even though the fœtus should be lost. It must be remembered that this is not a choice between the life of the child and that of its mother; for if the case end fatally to the mother, it is evident that the child must perish also. Dr. Denman, I believe, was the first to propose the induction of premature labor in such cases: and he says, "The propriety of this practice has also been considered when women have during pregnancy suffered more than common degrees of irritation, and especially when the stomach is in such a state that it cannot bear nourishment of any kind, or in any quantity, and patients are thereby reduced to a state of dangerous weakness. Pre-

* On Parturition, p. 193.

suming that these symptoms are purely in consequence of pregnancy, it may, perhaps, be justifiable to bring on premature labor."

The suggestion thus thrown out, but apparently not acted upon by Denman, has met with approbation, and been reduced to practice by men of the highest authority. Dr. Merriman has related a successful case, occurring in the practice of a "provincial surgeon of considerable eminence."* "She was teased with a severe cough, and her stomach was so irritable as to retain no food whatsoever, nor even opium in a solid form. She had taken absorbents, stomachics, bitters, aromatics, and opiates, without experiencing any relief: liniments, fomentations, and blisters had been extensively applied, without benefit; and she was thought to be sinking into her grave, when it was proposed, as a last resource, to bring on premature labor, six weeks before the full time; and the patient was delivered of a living child, and ultimately recovered."

Dr. Burns mentions that he knows one case in which the operation was twice successfully performed.†

Dr. Davis has recorded three successful cases:—"The author has performed the induction of premature labor, in the circumstances above described, three times. In one of them it was had recourse to in the seventh month, the patient having made an error of one month in her reckoning. The child, which was born alive, died in about two hours afterwards; the mother was soon and perfectly restored. The second case was on the whole more prosperous. The child, which had the appearance of one of eight months' growth, was given to a wet nurse who lived in the house, and who took excellent care of it. The mother also eventually recovered. Her sickness left her immediately after delivery; but she was the subject of feeble health, accompanied by a dyspeptic state of the stomach, for some years afterwards. The subject of the third case might be said to have been in a cachectic condition before her pregnancy. When arrived at her sixth month inclusive, she was exceedingly harrassed by an intense irritation, from the effect of inanition, as the author supposed, which threatened a speedy and an alarming issue. The operation for the induction of premature labor was performed. The child of course was lost. The mother recovered rather rapidly, and enjoyed moderate good health afterwards, and has since borne several living children at the full period.‡

I find the following case quoted in Ranking's Abstract:—"A lady, aged 28, the mother of three children, arrived at the sixth month of pregnancy without interruption to her health. At this period she was, without obvious reason, seized with vomiting, which resisted all medical treatment, and reduced her to the last degree of exhaustion.

* Med. Chirurg. Trans. vol. iii. p. 139.

† Midwifery, p. 254.

‡ Obstetric Med. vol. ii. p. 871.

Under these circumstances the operation of puncturing the membranes was proposed by Dr. Robert Lee, as the only means of saving her life, and was accordingly carried into effect by Mr. Edwards of Brompton, the narrator of the case. A small quantity of liquor amnii followed the puncture, but no sign of labor pains appeared, and the sickness continued unabated for that day. On the next morning, as the condition of the patient was not improved, it was determined that uterine action should be solicited by introducing the finger, and cautiously dilating the os uteri. This was done, and the part was so far dilated as to admit the hand, but still no pains were excited; the stomach, however, became more tranquil. In the evening a few feeble pains came on, and a six months' fœtus was expelled. The placenta was large, and a fibrinous coagulum was seen to be adherent to it. From this time the vomiting entirely ceased, and the patient ultimately regained her strength."*

Dr. Ashwell states, "If, notwithstanding every remedy, the vomiting goes on to debilitate the patient, she may be reduced to a state of extreme danger; in these circumstances, *after consultation*, we think it very justifiable to induce premature labor."†

And Dr. Blundell, "Again, should all these remedies fail, you have yet another, and that is, the induction of premature delivery; for when delivery occurs, there is reason to hope this vomiting will cease. In determining on the use of this remedy, however, remember in the first place, that if the woman is very much reduced, there is always danger in these cases, lest the patient should sink under accidental flooding; this ought to be mentioned to the friends before the operation is performed. Nor is it to be forgotten, that when premature delivery is thus brought on, children are often presenting preternaturally—the leg or the nates, the arm or the shoulder, being placed over the centre of the pelvis instead of the vertex; nor that the child may perish under the best management, in consequence of this unfavorable position."‡

464. To these cases I shall add two, which have occurred to myself, in which the value of the operation is equally manifest, although the results were not equally favorable. The first case was that of Mrs. W. æt. 26, of a good constitution, and in good health; married six years, and the mother of two children. She became pregnant for the third time in June or July, 1846. The morning sickness commenced at the usual time, and continued as usual; until one night, (Augt. 20), she was suddenly awakened from sleep by a great noise, which threw her into a state of great alarm and nervousness. The next day she felt very ill with headache, loss of appetite, and palpitation.

* Ranking, vol. iv. p. 310, from *Lancet*, Sept. 17, 1846.
† On Parturition, p. 194.
‡ Principles and Practice of Obstetricy, p. 181.

The morning sickness continued throughout the greater part of the day. In a few days many of these symptoms subsided, but the sickness and loss of appetite continued. In this state she remained until Sunday, Sept. 1, when Dr. Maguire, of Castleknock, was called in. He found her retching incessantly, and vomiting a dark brown fluid. Tongue clean and moist; bowels free; pulse quick. Effervescing draughts, with a few drops of laudanum in each, were ordered to be taken during the night. The next morning she was in the same state; sickness of stomach not the least abated; the fluid ejected was sometimes green, and sometimes brown: she complained of headache; the face was flushed, the pulse pretty strong and quick. Ten ounces of blood were taken from the arm; a mustard sinapism applied to the pit of the stomach; a purgative enema given, and the effervescing draughts continued. The blood was neither buffed nor cupped. Sept. 3. Vomiting recurred this morning. The patient complained of great tenderness upon pressure in the epigastric region: violent epigastric pulsations. Twelve leeches were immediately applied, followed by a poultice, with fomentations subsequently. Enema of assafœtida and turpentine. Cold drinks. Sept. 4.—Leeches afforded much relief. The vomiting continues, but not so violent. Pulse quick and pretty full. Sense of great oppression at the præcordia. Bowels free. Ordered a moderate dose of the muriate of morphia every two hours. The fomentations and mustard poultices to be repeated in the evening. The morphia produced some sleep during the day, but did not relieve the vomiting, every thing taken being rejected immediately. Sept. 5. This morning the vomiting was so excessive, that Dr. Maguire requested me to visit his patient, and I found her in the state I have described. The stomach rejected every thing instantly, and she had a most intense and constant nausea, so distressing that she had to seek relief by producing vomiting. Her distress was indescribable; sometimes rolling and tossing herself in bed; at others, placing herself on her knees, with her head inverted, sighing and groaning with anguish. Her pulse was 120, and small but not weak. She complained of utter exhaustion, and had become very thin. There was some tenderness over the stomach, but not in the uterine region. I could neither hear the fœtal heart, nor the uterine murmur. We tried leeches, blisters, sinapisms, poultices, opium, creosote, prussic acid, calomel, ice, alkalis, acids, charcoal, &c. with but slight benefit, and, with a week's intermission, the vomiting continued unabated, and her condition deteriorating, until Oct. 19, at which time her condition was truly pitiable; the vomiting was incessant, and her distress inexpressible, so that I really find it impossible by words to convey an adequate impression of the agony she suffered. When not actually vomiting, she suffered more torture from nausea; she lay tossing about in the bed, or suddenly throwing herself out of the bed, she would roll about on the floor. Her sighs and groans were mingled with shrieks and petitions for relief. Her face was haggard; her eyes sunken, and surrounded by dark cir-

cles; her body was little more than skin and bone; her stomach retained nothing for a moment; the pulse were 130, and very weak; she obtained little or no sleep, and was attacked by occasional paroxysms of suffocation. With this array of symptoms, and in this condition, we could not doubt that unless relief were by some means afforded, the patient must shortly sink; and after the failure of all the ordinary remedies, there remained only the induction of premature labor to which we could have recourse. Accordingly, after much reflection and consultation, and with a painful sense of the responsibility, we decided upon having resort to this operation. We gave ergot repeatedly, and passed a bougie into the uterus, but it was four days before the uterus expelled its contents, and the patient was reduced to a most alarming state of exhaustion. After this the vomiting recurred but three times, and Mrs. W. was perfectly convalescent in a fortnight.

I have given this case in detail, not only because of its successful result, (and there can be no doubt that the patient's life was saved by the operation), but also because of the illustration it affords of the distress occasioned by the complaint.

The second case is as follows:—On the 12th of Dec. 1847, I was requested by Mr. Young, of this city, to visit Mrs. S. with him. She was above 40 years of age, had borne six children, and was in good health up to seven weeks previously, when she was attacked by dysentery, which after the usual treatment subsided, or rather was superseded by incessant vomiting. For the last few weeks she had retained nothing on her stomach, and was in consequence reduced to the lowest degree of weakness and exhaustion. The emaciation was greater than in the former case; she was literally but skin and bone. She was confined to bed, and suffered great agony from the retching both day and night: her pulse were 120, and so weak as to be barely perceptible. I carefully examined every organ of the body, but could detect no disease. I thought I could discern a fulness over the pubes, and I asked her if she were pregnant. She did not think so, although the catamenia had been suppressed for four months; and she certainly had no other symptom of pregnancy. Upon careful consideration of the case, however, I inclined to the belief that she was in the family-way, and that the vomiting was the result of pregnancy and not of disease, and as all the ordinary remedies had been tried by Mr. Young and others, I proposed to try and bring on premature labor. I accordingly passed a bougie into the uterus, and then introduced a small roll of lint into the os uteri, where I left it. The next morning I had the gratification to find that labor pains had set in early, and she had been delivered of a fœtus of three months, without hemorrhage, and with but little suffering. From this moment the vomiting ceased entirely; she took proper nourishment, and for two days made a very favourable progress, but she was then attacked by obstinate and continued diarrhœa, under which she sank about six days after delivery.

This case presents several points of great interest: 1. It affords another example of a patient reduced to the verge of death, by the vomiting of pregnancy. She was worse when I first saw her, than the case I have first related at the time of the operation, although the vomiting had not continued so long. 2. The diagnosis was unusually difficult. The patient was near the age at which menstruation ceases: did not believe herself pregnant; had no other symptoms of it but the vomiting, and the absence of the catamenia; and the attack had come on at the termination of dysentery. It was merely a probability that she might be pregnant, and upon that I acted. 3. The success of the remedy was perfect, as regards the vomiting. She took food and drink immediately after delivery, and never vomited again. But her exhaustion was so great, that she could not withstand the attack of diarrhœa. Had the operation been sooner performed, it is very probable that she would have recovered.

The cases I have brought together form an ample justification of the operation; but then, the question arises, at what time should we interfere, or what state of the mother will warrant our thus interfering? Whilst we admit that the sole ground for interference is the condition of the mother, we must not altogether overlook the period of pregnancy, and the prospects of the child. For instance, if we can afford temporary relief, and so postpone the operation until the full time, without serious risk to the mother, even at the expense of considerable suffering, I think the probability of saving the child thereby requires that we should do so. Or again, even if we can carry on the case with safety, until the fœtus arrives at a viable age, we ought certainly to do so. But if the mother suffers incessantly; if her strength be rapidly running down, with the other symptoms I have already mentioned, so that her life is in danger: then we must interfere, at whatever period it may be, without regard to the child at all; and moreover, we must recollect, that by too long delay the patient may risk her life even after the operation.

This is not the place to dwell at length upon the mode of inducing premature labor, it may be done by piercing the membranes, introducing a sponge tent into the cervix uteri, and aided by the ergot of rye. I will merely add my conviction that, for a little time after the vomiting has ceased, the diet ought to be plain, and of the simplest kind, lest diarrhœa should be induced.

CHAPTER III.

CARDIALGIA.—PYROSIS.—CRAMP OF THE STOMACH AND DUODENUM.—HEMATEMESIS.

465. 1. CARDIALGIA.—PYROSIS.—A great number of women suffer from this form of disease during gestation, but the degree varies much. It may occur at a very early period,* and even be amongst the first symptoms by which the patient will recognise her condition;† but in general, it is not until the latter half of pregnancy that it is troublesome.‡ Cardialgia and pyrosis seem to be merely different forms of the same disease. Women of a nervous and hysteric temperament are peculiarly obnoxious to the disorder.

466. *Causes.*—There is no doubt that certain articles of food may give rise to it, or aggravate it,§ though more frequently it is owing to the condition of the stomach, induced by sympathy with the gravid uterus. It has been attributed to a morbid alteration of the gastric fluid,‖ or to the presence of bile in the stomach.¶

Dr. Burns attributes pyrosis to a complicated affection of the eighth pair of nerves. Mental emotions, or a deranged state of the bowels, may give rise to it.

467. *Symptoms.*—The patient complains of pain and heat at the pit of the stomach, extending along the œsophagus, with occasional eructations of a sour or bitter fluid. Eating greatly aggravates these symptoms. In pyrosis, this burning pain is much more severe, and

* Campbell on Midwifery, p. 523.

† Dewees' Compendium of Midwifery, p. 112.

‡ "Antoine Petit places this disease among those which occur at the latter end of pregnancy: I have seen it always in the early months; and Hermann mentions a case in which it commenced immediately after conception."—*Imbert, Mal. des Femmes*, vol. i. p. 394.

§ Denman's Midwifery, p. 155.

‖ "A morbid state of the gastric juice obviously exists, from the superabundance of acid."—*Campbell on Midwifery*, p. 523.

¶ "This affection may be caused by the bile remaining too long in the stomach, or by the gastric acids: it ought then to be considered as idiopathic. These acids may become so acrid, as not merely to excite inflammation, but even to corrode the coats of the stomach. Examples of sudden death from this cause are on record. But in most cases, this sensation of burning, called soda or pyrosis, is purely sympathetic in pregnant females."—*Gardien, Traite des Accouch.* vol. ii. p. 58.

more extensive, attended with more copious eructations of watery fluid—hence the popular name, waterbrash. There is a distressing sensation of dragging from the stomach towards the spine. Vomiting sometimes occurs. The fluid evacuated may be of a bilious character, or clear water; sometimes it is bitter, at others acid, and occasionally so acrid as to excoriate the mouth and fauces.

In ordinary cases there is no constitutional disturbance; the appetite is either destroyed, or the pain attendant upon its gratification is so great, that the patient voluntarily abstains from eating; but in the severer cases there is great distress. M. Capuron observes, "This disease, when severe, occasions more or less disorder of other organs, the extremities stiffen, the body shivers, and is covered with cold sweat; circulation and respiration are impeded, deglutition is impossible, and the evacuations are suppressed; enemata with difficulty overcome the constipation, and bring away nothing but hard and black scybalæ. Lastly, according to Boerhaave and others, the patient may die of the agony in less than three hours."*

468. *Diagnosis.*—It is of importance not to mistake inflammation of the mucous membrane of the œsophagus and stomach for heartburn. In the former the distress is continuous, and gives rise to fever and quick pulse; whilst in the latter the pain and heat come on occasionally, subside spontaneously, and are not accompanied by fever. Lastly, the existence of pregnancy is a presumption in favor of heartburn or pyrosis

469. *Treatment.*– At an early period of pregnancy the disorder may often be relieved by a change of diet, exercise, slight irritation to the pit of the stomach, &c. A dose of magnesia will often remove it.

Capuron observes, "If the cardialgia be sympathetic and nervous, as in hysteric women at the commencement of gestation, it is combated by regimen, exercise, baths, fomentations to the pit of the stomach, and lastly by narcotics and antispasmodics, according to the severity of the pain. If, on the other hand, the disease is idiopathic, and depends upon the presence of acid or noxious matters in the stomach, as happens ordinarily in pyrosis, we must first relieve the stomach of these, and afterwards, by increasing its tone, prevent a return of the disorder."† And with him M. Gardien coincides. "In cardialgia and 'soda,' (pyrosis)," he says, "which I consider as only different degrees of the same affection, the indications of cure may be comprised under two heads. We can only diminish or cure the sensation by neutralising the fluids contained in the stomach, or by expelling them." "When the burning is severe, prudence will dictate the employment in the first instance of soothing and antispasmodic remedies, and of abundant drinks." "When the

* Mal. des Femmes, p. 383.
† Mal. des Femmes, p. 385.

pains are owing to the presence of an acid, we may at once commence by absorbents.*

In more obstinate cases, depending upon acidity, great benefit is derived from magnesia, simple or combined with ammonia;† lime-water; preparations of chalk;‡ liquor potassæ, with chalk mixture or mucilage; ærated water of potash or soda;§ acids.‖ Drs. Denman¶ and Capuron** speak favourably of an occasional emetic. The bowels should be attended to in all cases, and laxatives will in general be necessary, such as rhubarb and magnesia, aloetic pill, compound extract of colocynth, &c.

In some cases the pain will require the use of antispasmodics or opium;†† or even the abstraction of a moderate quantity of blood.

A blister may be applied to the pit of the stomach, or between the shoulders, with good effect; or an anodyne liniment may be rubbed over the abdomen.

Mild bitters have been strongly recommended when the stomach is enfeebled.

470. II. Cramp of the Stomach and Duodenum.—Under this title Dr. Burns has described an affection not very uncommon with pregnant females. It consists of a cramp-like pain in the

* Traitè des Accouch. vol. ii. p. 59

† Dr. Denman speaks highly of the following formula of Dr. James Sims:

℞. Magnesiæ ustæ ;
Aq. Ammoniæ puræ aa ℨi.
— Cinnamomi ℨiii.
— Puræ ℥vss.
M.

Sumat cochlearia duo vel tria ampla sæpius in die, urgente cardialgiâ."—*Midwifery*, p. 115.

‡ "We lately attended a lady who was much distressed by *heart-burn*, and after going through a whole round of remedies, she commenced taking prepared chalk, and through several pregnancies consumed an ounce of it every two or three days. It had this additional advantage, that it not only relieved the heartburn, but preserved the bowels in an invariably aperient and comfortable state."—*Ashwell on Parturition*, p. 169.

§ Campbell's Midwifery, p. 523.

‖ Dewees' Midwifery, p. 113.

¶ Midwifery, p. 165.

** Mal. des Femmes, p. 385.

†† Imbert, Mal. des Femmes, vol. i. p. 394.

region of the stomach and duodenum, occasioning considerable suffering, and even sometimes causing abortion.*

It is probably dependant upon the state of the bowels, or it may be caused by errors in diet, or mental emotion. In some few cases it would appear to be connected with the passage of a biliary calculus, and may give rise to jaundice.

Occasionally, however, it is a less simple affection, being complicated with congestion of the head, threatening convulsions, accompanied with tenderness of some portion of the spine.

471. *Treatment.*—Our first object is to quiet the pain by a full dose of laudanum and ether.

When this is attained, we may proceed to remove the cause, and to correct any intestinal irregularity. Dr. Burns recommends aloetic purgatives, but these may not in many cases be suitable. If there be piles, as is very often the case with pregnant females, they will rather prove injurious than beneficial. I have found Gregory's powder, electuary of sulphur and senna, or castor oil, to answer the purpose better.

During the intervals of the attack, tonics (of which oxide of bismuth or preparations of iron are recommended,) or stomachics may be exhibited. A belladonna or opium plaster, or a blister over the stomach, is often very useful.

Should the attack be very severe, bleeding, or leeches to the epigastrium may be advisable; this will be especially the case, should there be any symptoms of congestion about the head, and more for the purpose of preventing an attack of convulsions, than even for the relief of the gastric affection.

472. III. HÆMATEMESIS, OR VOMITING OF BLOOD.—In some rare cases, a discharge of blood takes place from the stomach during the early months of pregnancy. It is very seldom in any large quantity, nor does it continue any length of time. It can scarcely be regarded as a dangerous attack; though to the patient it is abundantly alarming. In many cases, I have no doubt, it is a species of vicarious menstruation.

473. The *causes* may probably be found in a general or local plethora; or it may possibly arise soon after conception, from the suppression of the menstrual discharge. In other cases it may be the consequence of violent straining and vomiting.

474. *Treatment.*—The first object is to relieve the system (where plethora exists) by a less hazardous evacuation; viz., bloodletting or leeches. After this has been done, blisters to the pit of the stomach, purgatives, acids, and astringents, as recommended, may be tried.

Midwifery, p. 256.

Should the hemorrhage take place during labor, or should labor pains, with dilatation of the os uteri, come on prematurely in consequence of it, Dr. Burns advises that the labor should be hastened.*

For more minute details, I must refer the reader to works upon the diseases of the stomach. This disease so seldom occurs during gestation, that I have thought it unnecessary to give them.

CHAPTER IV.

CONSTIPATION DIARRHŒA

475. I. CONSTIPATION.—Nothing is more common than for pregnancy to change altogether the habit of the bowels: in cases where, previous to conception, they were quite regular, or even relaxed, they often, during gestation, become so constipated as to require the constant exhibition of purgatives. This change is said to occur most commonly in patients of a bilious or melancholic temperament. The degree to which the constipation may be carried varies much. In the ordinary cases which come under our notice, we may find that three or four days intervene between each alvine evacuation; but where the patient is careless about herself, a longer period—one, two, or three weeks, or even months, may elapse.

"Constipation may continue a longer or shorter time. Certain pregnant females are reported to have passed more than eight days without an evacuation. A case is cited in 'l'Histoire de l'Academie des Sciences,' where it occurred every twenty days, and many others where the fæcal matters were so hardened by their retention in the intestine, that they had to be extracted by the fingers and by instruments. We had occasion to see a lady—with MM Pelletan and Dubois—who was constipated for more than three months."†

"The period which some females pass without a motion is almost incredible: from nine to ten days often intervene, and even several months have been mentioned. In a case in my practice, the intestines were so much overcharged, that after the expulsion of the fœtus, the attendants thought the woman had another child to bear; and as I did not see the patient until after her delivery, they insisted on my examining *per vaginam*, when I found the rectum distended to the size of a quart bottle. The woman died of peritonitis; fourteen pints

* Midwifery, p. 265.

† Capuron, Mal. des Femmes, p. 367.

of liquid feculent matter were removed from the small intestines, the colon and rectum having been emptied during life by enemata."*

The slighter cases of this affection, though troublesome, cannot be said to be in any respect dangerous: but where the constipation is much prolonged, very unpleasant consequences may ensue.

It may occur at the beginning or end of gestation; or it may be troublesome throughout the whole period.

476. *Causes.*—By some writers constipation is regarded as the effect of the pressure of the gravid uterus upon the intestines. By others, as being the result of an altered state of vitality in the intestines, as M. Imbert has observed: "I doubt very much whether this compression exists in ordinary cases. While the uterus is enclosed in the pelvis, it is not large enough to obliterate the rectum." "When above the cavity of the pelvis, the intestines are behind it, and in a cavity like the abdomen cannot be compressed so as to obliterate their canal" "Let us admit, therefore, that constipation is a vital lesion, and is to be explained on principles already laid down." That is, from some irregularity of innervation.†

There can be little doubt but that both are influential, although it may be difficult to define exactly the limits of each.

Siebold has mentioned a mode in which the pressure is exercised, not alluded to by other authors, viz., where the vertex of the fœtus is toward one or other sacro-iliac synchondrosis, *i. e.* in the third or fourth position of Naegele. He has also attributed constipation to cramp of the intestines. "It may be owing," he says, "1. To the augmented activity of the genital system, and the consequent diminished energy of the intestinal canal. 2. To errors in diet. 3. To the pressure of the enlarged uterus. 4. To the pressure of the back part of the head or the vertex upon the gut, in the third and fourth position. 5. To cramps, arising from the increased irritability of the intestines. 6. To the lazy and indolent habits of pregnant females."‡

477. *Symptoms.*—In the slighter cases there are few symptoms to call for our interference; general uneasiness and discomfort, slight headache, and a moderate increase of heat may be observed, all disappearing immediately after the bowels have been evacuated.

Even in cases where the accumulation of fæces is excessive, we may be deceived by the absence of great uneasiness, and by the fact of fluid stools (in small quantity) passing every day.

"There is reason to believe," says Denman, "that this complaint has often been overlooked in practice; for though the column of indurated fæces is sometimes enormous, a small quantity in a liquid state escaping between the column of hardened fæces and the side of the

* Campbell's Midwifery, p. 524.
† Mal. des Femmes, vol. i. p. 364.
‡ Siebold's Frauenzimmerkrankheiten, vol. ii. p. 38.

intestine, may be daily discharged; so that no suspicion of the real nature of the case may be entertained, unless the stools be inspected, or the patient be examined *per anum*."

But in the majority of cases where the constipation is obstinate and prolonged, our attention cannot fail to be arrested by the symptoms.

The patient complains of headache, sleeplessness, or unpleasant dreams, restlessness, and discomfort. She has a sense of weight and fullness in the abdomen, and general uneasiness. The irritability of the system is augmented, and all the sympathetic irritations of pregnancy are increased. The stomach is disturbed, the appetite diminished, and vomiting often occurs. There are pains in the abdomen, and irritation of the mucous membrane of the bowels, giving rise to tenesmus, and a discharge of mucus tinged with blood, or fluid evacuations mixed with hardened scybalæ.

"The consequences of obstinate constipation are, continued headache, anxiety, giddiness, sleeplessness, distressing dreams, vomiting, displacement of the uterus, swelling of the veins of the lower extremities, tedious labor; painful, irregular, and ineffective pains; obstruction to the passage of the child; and subsequent to delivery, great danger of childbed fever, especially if it be epidemic at the time."*

The pains in the abdomen may even be mistaken for labor pains, and there is considerable risk of abortion or premature labor, from the violent efforts made by the patient to evacuate the bowels.†

In all cases where we have reason to suspect an accumulation of fæcal matter, it might be advisable to make a vaginal examination, by which we shall be enabled to ascertain the state of the rectum. It will be found distended, often to an enormous size, diminishing considerably the calibre of the vagina. In cases where fluid stools are discharged, we may detect a groove running along the mass of indurated fæces.‡

If this loaded condition of the rectum be not relieved, it will increase both the danger and distress, by exciting inflammation and fever, and may even prove fatal, by inducing sphacelation of the parts. Dr. Burns observes, "In considering the effects of costiveness, not only in pregnant women, but in other circumstances, it will be well to attend to the effect on the rectum alone, independently of other consequences; and to recollect the branches, both of the sympathetic, ganglionic, and sacral nerves distributed to that gut, and the remote influence thereby exercised."

Hemorrhoids, or piles, are a frequent consequence of the obstruction offered to the return of the blood by this local pressure. Should

* Siebold's Frauenzimmerkrankheiten, vol. ii. p. 39.
† Burns' Midwifery, p. 256.
‡ Davis's Obstetric Medicine, p. 873.

this state of the bowels be allowed to continue, we may expect great inconvenience at the time of labor. The descent of the head into the cavity of the pelvis will be delayed, and the passage of the child impeded, or rendered impossible, until by mechanical means the fæcal matter has been removed; and even when delivery has been accomplished, the convalescence is by no means always favorable.* "After delivery," says Dr. Burns, "masses of indurated fæces come down from the colon, attended with considerable pain and frequency of pulse, and sometimes fatal peritoneal inflammation."† I have already quoted a case of this kind related by Dr. Campbell. The probability of puerperal fever will be much increased, of course, if that formidable disease should be epidemic at the time.

478. *Treatment.*—What has been stated in the preliminary chapters will, I trust, have the effect of preventing neglect as to the state of the bowels during gestation, in those who have the management of the case throughout. But we are not often consulted until the bowels have acquired a habit of constipation, or the patient is alarmed at the long interval which has elapsed since the last evacuation. Now, although it is quite necessary that the bowels should be kept free, yet their condition, when pregnancy is not present, is not exactly the standard; we must make some allowance, because a slightly confined state of the bowels is in many their *natural* condition during pregnancy.‡ We are not then to interfere actively in every case where their action is rather more sluggish than usual; or if we do, it should be by mild methods first, lest by accustoming the intestines to act *only* when influenced by medicine, we aggravate the disorder we seek to remove.

* "The editor once attended a labor, in which the hollow of the sacrum was nearly filled up with a hard mass, giving to the finger the sensation of an exostosis; but, on a more minute examination, it proved to be the rectum filled up with hardened fæces. Great difficulty was experienced in emptying the bowels, after which the labor went on very favorably."—*Note by Dr Waller, in Denman's Midwifery*, p. 157.

"Not to dwell on the distressing sensations produced by excessive and almost continual constipation previously to labor, we have known, during the act of parturition itself, very serious delay arise from this cause, and more than once we have been compelled to *empty the rectum mechanically, and wash out its contents,* before the head could be propelled into the world"—*Ashwell on Parturition*, p. 196.

† Burns' Midwifery p. 258.

‡ "But I was formerly much more assiduous in preventing costiveness than I am at the present time, having observed that all women who go on properly, especially in the early part of pregnancy, are liable to this state of the bowels, which may have some relation to the

An occasional dose of manna, magnesia, rhubarb, castor oil, compound extract of colocynth, &c., with the use of enemata of warm water, will in most cases answer our purpose.* The diet also may be arranged so as to act beneficially upon the bowels.

If the case be more obstinate, stronger purgatives and more potent enemata must be used, and we should carefully ascertain in such cases that the bowels have been *adequately* freed. Having succeeded in this object, we must prevent a recurrence of the constipation by the regular exhibition of purgatives or enemata.

If there be experienced much irritation after the evacuation, a dose of hyosciamus (gr. iv. or gr. v.) may be given; or some of the preparations of opium, in doses according to the necessity of the case, followed by a mild laxative.

When there is much irritation, and fever, with tenderness of the abdomen, venesection will be necessary.

If medicine prove ineffectual, there remains nothing for us but to scoop out the fæces from the rectum, softening them with enemata of warm water as we go on; and this is peculiarly necessary if the patient be in labor. Great care will be necessary after delivery to avoid irritation, and yet obtain a full evacuation of the bowels.

479. II. Diarrhœa.—Although, in the preceding section, it has been stated that in the majority of cases the habit of body becomes more or less constipated during gestation, yet it must be confessed

strong action of the uterus at that time. Costiveness may therefore be considered as a state of the bowels corresponding with that of the uterus, and we can never believe that to be injurious, which occurs so frequently as to be esteemed a common consequence."—*Denman's Midwifery*, p. 156.

* "We do not advocate the continual exhibition of purgatives, much less those of an aloetic or drastic kind; still, as torpor of the bowels is naturally incident to pregnancy, we are always desirous to prevent any such accumulation of feculent matter as may give rise to injurious constipation." "A teaspoonful of castor-oil, taken three or four times a week on going to bed, aided on the following morning by the injection of a pint of warm water into the rectum, will frequently preserve a comfortably aperient state of the bowels throughout the whole period of gestation."

"The following pills may also be safely taken:—

"℞. Extract: Colocynth: co: ℈ii.
Extract: Hyosciami, gr. xv.
Ol: Cassiæ gtt. ii. M. ft. Pil: viii.

Sumat ii. vel iii. urgente constipatione."

Ashwell on Parturition, pp. 195–7.

that examples of the opposite condition from the same cause are very numerous. Persons who require to take medicine ordinarily, sometimes find the bowels become free and regular without it during pregnancy. Others are subject to habitual looseness, or to sudden, or even periodical attacks of diarrhœa. These attacks may be caused by previous constipation, and alternate with it; or they may coexist, for we occasionally find fluid stools discharged in consequence of irritation of the lower portion of the intestine, whilst the fæcal matter is accumulating largely above the seat of the irritation.

Diarrhœa may occur at any period of pregnancy: it sometimes follows conception so closely, that the patient has her attention first drawn by it to her situation, and it may return every month, as though it were vicarious of the menses; as in the following case:—"A lady, the wife of a merchant, of a spare habit and bilious temperament, but of a remarkably flaccid disposition, was always seized immediately after conception with a diarrhœa, which returned *with unfailing regularity every month during the whole of the pregnancy,* and was often accompanied on its return by violent pains of the stomach. The occurrence of this periodical diarrhœa was always considered by the lady herself an indubitable sign of pregnancy. The symptom continued at each period for seven or eight days, and on each day she had from fourteen to twenty-five copious alvine discharges. Although she took but little food, she nevertheless enjoyed a moderately good state of health and spirits. When the case was reported, she was the mother of three healthy children. In her first pregnancy, medicines were exhibited with the intention of stopping the looseness; but they produced such unfavorable symptoms, that they were soon put a stop to. In the absence of pregnancy, the catamenia, in the case of this lady, flowed regularly, healthily, and plentifully; whilst, during the first week after conception, and till the accession of the diarrhœa, a copious fluor albus took place, which then became arrested, and did not return."*

480. *Causes.*—As already mentioned, it may be caused by conception, and continued as a constitutional evacuation; or it may follow after constipation.

It may arise from cold, to which pregnant females are very liable, partly owing to defects of dress; or from mental emotion, or from a diseased state of the lining membrane of the intestines.

481. *Symptoms.*—The discharge varies much in frequency and in character. There may be two or three large evacuations, or ten or fifteen smaller ones. The discharge may resemble colored water, or it may be dark-colored, offensive, and even acrid.

The milder attacks are unaccompanied by pain; but from the

* Comm. by Dr. P. Romellius, Ephemerid. Germ. dec. 2, an. 5, p. 303; Davis's Obstetric Medicine.

severer ones the patient suffers considerably. Tenesmus is occasionally present.

Where the attack is slight, the constitution scarcely sympathizes at all; the patient complains of weakness and langour, but there is no feverishness. In severer cases, especially when there is inflammation and ulceration of the mucous membrane, the pain is great; there is oftentimes a sensation of burning, the pulse is quickened, the tongue dry, the skin hot, with much thirst, the appetite is diminished, and vomiting occasionally occurs. The stools are not only frequent, but dark-colored and offensive.

If it be obstinate and severe, diarrhœa is even more likely than constipation to cause abortion, particularly about the third month.

The worst form may prove fatal to the mother before or after delivery, but these cases are not common.*

482. *Diagnosis.*—It is of importance, as to the treatment, to distinguish the diarrhœa, which is an increased secretion from the mucous membrane merely, from that arising from inflammation; and this may be done sufficiently well by observing the effects upon the constitution—the former producing little or none, and the latter considerable disturbance, as already noticed.

483. *Treatment.*—It is not always wise to stop these discharges too suddenly, especially when periodical; we may content ourselves with restraining them, which may generally be done effectually by the chalk mixture, either alone, or in combination with kino or catechu. Sometimes moderate doses of hydrarg: c. creta, with Dover's powder, are preferable.† If these fail, opium may be given alone, or in combination. A very effectual mode is to administer it in starch as a glyster.

* "Is resembles dysentery; it seldom proves fatal before, but often after delivery."—*Burns' Midwifery*, p. 259.

† Dr. Waller strongly recommends the following medicines for removing this irritable state of the bowels:—

"℞. Sodæ Tartar: ʒi.
Cretæ ppt: ℈i.
Syr: Papav: alb. ʒi.
Aquæ Menth: Sat: ℥x.
M. ft. Haustus 4tis horis sumend."

In addition to which, if the patient be restless, she may take at bed-time:—

"℞. Hyd: c. Cretâ: gr. v.
Pulv; Ipec: Co: gr. v. ad gr. x.
M. ft. Pulvis."

—*Denman's Midwifery*, p. 159.

If the discharge, though frequent, be insufficient, a dose of castor oil, with twenty or thirty drops of laudanum, will generally afford relief.

In the severer attacks, venæsection, or leeches to the anus, may be necessary, with mild purgatives. Dr. Burns says, "Small doses of rhubarb give great relief, and one grain of ipecacuan may occasionally be added to each dose of rhubarb." When the irritation and fever subside, anodyne enemata may be given. Blisters are occasionally useful.

The patient will find great relief from being clothed entirely in flannel.

The diet should in all cases be bland, though nutritive. I have found milk diet very useful and agreeable.

CHAPTER V.

ICTERUS, OR JAUNDICE.

484. This is a disease which more frequently affects the latter months of pregnancy, though it does occur at an earlier period occasionally. It is said that women of a fair complexion are more subject to it than brunettes, and that it is more common in winter than summer. We sometimes see attacks of jaundice, which after a little time disappear; but it generally lasts the remaining period of gestation.

485. *Causes.*—The proximate cause may vary. 1. It may arise from the pressure of the enlarged uterus or intestines upon the gall duct.* This is probably the principal cause at a late period of gestation; but it can have no effect at an early period, before the uterus has left the cavity of the pelvis.

2. In these cases, it is probably owing to that sympathy which the chylopoietic viscera have with the womb.

* When it merely arises from gestation, it is to be ascribed, I presume, to the pressure of the uterus, which not coming in contact itself with the biliary ducts, may however press other parts—the intestines, for example—against them."—*Blundell's Obstetricy*, p. 199.

"In early pregnancy it is difficult to say by what cause or obstruction icterus may be induced; but in the advanced stages it may be safely referred to the pressure of the enlarged uterus, or to some morbid condition of the liver itself."—*Campbell's Midwifery*, p. 527.

3 It may arise from some obstacle within the gall bladder, such as a gall stone impeding the passage of the bile through the duct.*

4. In some cases there appears to be a congestive enlargement of the liver giving rise to it, which continues during pregnancy, and terminates with it.

5. It may be owing to an idiopathic disease of the liver, as inflammation, occurring accidentally during pregnancy.

Cold or chagrin may prove one of the exciting causes.

486. *Symptoms.*—It will in most cases be found that the patient has been suffering from a disordered state of the stomach and bowels previously; in some females it occurs after a fit of vomiting, accompanied with tension and weight about the epigastrium or right hypochondrium; in others there are no precursory symptoms.

Generally speaking, the attack does not involve more inconvenience than this; but in some cases there are shiverings and flushings, cough, loss of appetite, and pain in the right side, with frequency of pulse, high-colored urine, and torpid bowels. When inflammation attacks the liver during pregnancy, it presents the usual symptoms of loaded tongue, quick pulse, severe pain, tenderness, &c.

Sometimes the disorder of the stomach and bowels continues, and aggravates the suffering of the patient; in other cases it subsides after a few days.

When the distress is considerable, abortion may result, though this is not common in the early months of pregnancy, probably because the jaundice then arises from sympathy with the uterus.

Two cases of jaundice, complicated with pregnancy, are mentioned by Dr. Davis. "One patient was married, and gave intimation of her being pregnant; the other was not married, and concealed her situation. The first was received into hospital, as a subject of tertian ague, for which one of the physicians prescribed bark. But the bark disagreed, and produced vomiting and abortion. In two days afterwards the whole of the jaundice had disappeared. She had advanced in her pregnancy about five months. The other, being an unmarried woman, omitted to mention the fact of her pregnancy. She was treated actively for jaundice by another physician, who gave her emetics. Part of her ovum came away, and was followed by a sanguineous discharge. She then confessed that she was pregnant. The emetics were laid aside, and innocent *placebos* was substituted. All her jaundice left her, and in a few days subsequently she was delivered of the remainder of her ovum."†

And M. Imbert says, "I witnessed an attack of jaundice in a female, æt. 40, pregnant for the ninth time, and at the second month of gestation I could feel the liver three finger-breadths

* Siebold, Frauenzimmerkrankheiten, vol. ii. p. 85.

† Obstetric Medicine, vol. ii. p. 872.

below the edge of the ribs; and after delivery it appeared even larger than before. I felt great fear of the results. For four days she had a brisk attack of fever, but the breasts filled, the secretion of milk took place, the jaundice disappeared, and the woman recovered her health, so as to be about her ordinary occupations in fifteen days, although the liver continued somewhat larger than natural. Il me parait donc plus juste de dire avec Van Swieten, que les jaunisses des femmes grosses sont presque toujours fort simples."

It is possible, also, that inflammation of the liver, causing jaundice, may prove fatal to the mother;* though this is rather unusual.

487. *Diagnosis.*—It is of great importance to distinguish the jaundice which arises from sympathy or mechanical obstruction, from that dependant upon inflammation; and our diagnosis will be grounded mainly upon the period of pregnancy, and the absence or presence of local symptoms.

Some females acquire a dark, almost yellow color of skin during pregnancy, which must be carefully distinguished from the disease in question, as it is of no consequence, requiring no treatment, and disappearing after delivery.

488. *Treatment.*—If unaccompanied by severe symptoms, all that we need do is to attend to the state of the stomach and bowels, relieving any irritation, and keeping the latter free.

The co-existence of pregnancy will forbid the use of the more active methods of treatment in the severer cases; but small doses of blue-pill may be given, followed by a laxative. Purgatives may be repeated every second or third day with benefit.

If there be evidence of spasm, opium or Dover's powder may be necessary to allay irritation.

When the jaundice is the result of pressure merely, it may sometimes be relieved by lying constantly on the left side.

In patients of a full plethoric habit, where there is much pain or irritation, it may be well to take away a little blood.

Should the jaundice be dependant upon an attack of inflammation, the usual antiphlogistic remedies must be employed, according to the violence of the disease, modified only by the existence of pregnancy. For details upon the method of treatment, the reader is referred to works upon the subject.

* "We should especially recommend an early regard to affections of the liver during pregnancy, if they be conjoined with inflammation. A lady, the wife of a very able practitioner in the country, was attacked with symptoms of *jaundice* in the latter months; they were not altogether disregarded, but inflammation of the liver succeeded; and notwithstanding the most vigorous treatment, it terminated fatally in a few days."—*Ashwell on Parturition*, p. 165.

DISORDERS OF THE CIRCULATING SYSTEM.

489. It cannot appear surprising that the circulating system should suffer derangement during pregnancy, if we recollect that in addition to the direct effect produced upon it by the gravid uterus, it is also greatly influenced by the sympathetic irritations of other organs. Thus, even if it did not sympathize with the uterus, still it would be liable to disturbance from disordered stomach or bowels, or from impeded respiration. The influence of pregnancy, therefore, upon the heart's action, results from a combination of direct sympathy with the uterus, and with the disorders of other organs or systems.

CHAPTER I.

PALPITATION OF THE HEART.—FAINTING.

490. I. PALPITATION.—Almost all females suffer from attacks of palpitation at some period or other of their pregnancy, especially those of a nervous and hysterical temperament. "It is certain," says M. Capuron, "that delicate, hysteric, and irritable females are more tormented with palpitations during pregnancy than others, whether the inconvenience were felt before conception, or whether this new condition have augmented their peculiar sensibility; or lastly, whether it be caused by flatus pushing up the diaphragm, and oppressing the heart, as in the cases published by Senac, Malpighi, &c."*

By some it is felt immediately after conception; by others at the period of quickening; and by a third class towards the end of gestation. The attack may be occasional, disappearing spontaneously, or it may continue days, weeks, or even months.

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* Mal. des Femmes, p. 411.

491. *Causes.*—It is usually stated, and I believe correctly, to arise from sympathy with the uterus, especially in the early months of pregnancy, and from mechanical pressure in the latter months of gestation.

M. Gardien considers that "the palpitations arising from pregnancy are of a purely nervous character, and one of the numerous symptoms of an hysterical affection." "Two causes, dependant upon their new condition, occasion them to be more frequent and more fatiguing than at other times. The pressure of the womb upon the iliac arteries and abdominal vessels occasions a reflux of blood towards the superior parts of the body. And in the latter months of gestation, the stomach and diaphragm are pressed upwards, the pericardium and the heart more or less displaced, which must necessarily influence the movements of this latter organ, and render them more irregular and violent than ordinary."*

Dr. Campbell observes that this affection "consists in violent and irregular action of the heart, which may arise either from its functions or those of the larger canals being obstructed, and from causes acting through the medium of the nervous system, of which by far the most frequent is mental emotion. To these may be added surfeiting, indigestion, and torpid bowels. Women of acute feelings, and of a plethoric habit of body, are most subject to palpitations. The progressive enlargement of the gravid uterus, its consequent encroachment on the thoracic cavity, and the interruption which so large and ponderous a body must give to the circulation in the aorta and its immediate divisions, will sufficiently explain the occasional occurrence of this affection."†

M. Imbert denies that pressure can have anything to do with it. There is no doubt, at least, that if it have any influence, it is directly contrary to M. Imbert's theory of disease.

Among the exciting causes may be enumerated mental emotion, disordered stomach and bowels, flatulence, difficult respiration, errors of diet, &c. The motions of the child not unfrequently give rise to it, and it may result from a change of temperature or of position. Thus, it is some time before some patients can bear the horizontal posture in bed; and even changing from one side to the other will often produce it. Siebold places general plethora among the most influential causes.

Palpitations may also arise from organic disease of the heart during pregnancy, but these cases are not common.

492. *Symptoms.*—The attack may come on suddenly, or be preceded by some functional disorder. The patient feels the heart strike violently against the ribs, so as to shake the whole body, and even to

* Traitè des Accouch. vol. ii. p. 86.

† Midwifery, p. 512.

be audible to the sufferer. If it continue, the arteries of the body participate more or less; and the patient will complain of pulsation throughout the whole frame.

In general the heart's action is regular, though excessive; but in some cases a marked and frequent intermission may be observed.*

If asleep when the attack occurs, she starts up suddenly, as it were in a fright; and if walking, she is obliged to stand still.

Other organs also participate in the distress: the respiration becomes hurried or impeded, and the nervous system is disturbed, giving rise to head-ache, giddiness, imperfect vision, noise in the ears, and to a sensation of approaching apoplexy.

It is often connected with, and increases the tendency to the hysteric affections so common during gestation.

Generally speaking, palpitations can scarcely be called a serious disorder, though very inconvenient, from the interruption of the patient's rest, and the difficulty of taking sufficient exercise.

In some few cases it is said to have aided in causing abortion; and Dr. Burns supposes that its continuance may excite pulmonic disease, though this appears to be rather problematical.

493. *Treatment.*—If we are called to the patient during a paroxysm, our first duty will be to place her in that posture which affords the greatest comfort, either lying down, or supported by pillows. If she be of a robust, plethoric habit, we must have recourse to venæsection. This will generally afford some relief. If, however, she be delicate, and of a nervous temperament, it may not be advisable, but we may substitute quiet, and antispasmodics or stimulants, such as hartshorn, assafœtida, valerian, camphor, &c.

Opiate are often very useful, either alone or in combination.

I have found an opium or belladonna plaster over the region of the heart very beneficial: in other cases, an application more decidedly counterirritant succeeds better.

During the intervals between the paroxysms, tonics may be given, and the preparations of iron, especially the muriated tincture, have been strongly recommended. The antispasmodics may also be continued, and the spine rubbed with a stimulating embrocation. The state of the digestive organs must be carefully regulated, and the bowels kept free. The diet should be light and nourishing, and very little food should be taken in the morning. The head should be raised by pillows during the night.†

* "The heart palpitates with greater violence and irregularity than ordinarily; it strikes more forcibly against the ribs; the patient is awoke with a start; the pulse varies from its natural state; it is irregular, more or less accelerated, and sometimes intermittent; but there is no fever."—*Capuron, Mal. des Femmes*, p. 411.

† "Pregnant women should have the head raised during the night,

Exercise in the open air is necessary to the patient's health, but fatigue should be avoided, as well as all mental emotion, or other exciting causes.

The dress should be so arranged as that no unequal or excessive pressure shall be felt.

494. II. FAINTING.—Fainting is not a frequent occurrence during gestation, except perhaps at the time of quickening. It does however occur at other periods, either occasionally or repeatedly, or even periodically. I have known a patient subject to it, from very slight causes, during the whole period of pregnancy. Others suffer from it during the time of parturition, whether previously affected by it or not.

Healthy females are sometimes so attacked, but more frequently the weakly and delicate.

495. *Causes.*—It seems sometimes a consequence of palpitation and is doubtless caused by a disturbance in the cerebral circulation, whether the heart or brain be primarily affected.*

It is often excited by the first movements of the child, although they are very weak; and by subsequent ones, when strong. Want of sleep, mental emotion of a violent kind, great exertion, rapid motion, offensive sights or odours, heated rooms, &c. will give rise to it. It is also said to be induced by the opposite states of anemia and plethora.

and lie upon that side which diminishes most the congestion and pressure; they should avoid sitting much, and especially leaning forwards; they should avoid undue pressure by their clothes, and not clothe themselves too warmly; and lastly, the state of the excretions (particularly the alvine) should be carefully regulated."—*Siebold's Frauenzimmerkrankheiten*, vol ii. p. 182.

* "Ainsi c'est à la suspension des mouvements du cœur qu'il faut rapporter tous les phenomènes qui s'observent dans la syncope. C'est un point que Bichat a fort bien démontrè. Je ne diffère avec lui sur ce point, qu'en ce qu'il ne voit dans la syncope que le cœur, tandis que je fais remonter ses fonctions et ses maladies à la portion de moelle qui l'anime."—*Imbert, Mal. des Femmes*, vol. i. p. 414.

"As in the gravid state, fainting seizes individuals so suddenly, and that too while they are in perfect health, it is difficult, more especially in the early months, to account for it, since the uterus at this period cannot, from its bulk, produce any interruption or irregularity in the circulation of the heart or larger vessels. The womb, however, may influence the heart in another way, viz., through the medium of the nerves, whereby irregularity of its action, as often happens from a similar cause on other occasions, is produced; this inordinate action may lead to some irregular distribution of the blood in the cerebral vessels, and hence fainting."—*Campbell's Midwifery*, p. 511.

496. *Symptoms.*—There are generally premonitory symptoms, but their course is so rapid that the patient is unable to call attention to them. She suffers from a sense of langour, weariness, and weakness, with a frequent inclination to sigh or yawn; surrounding objects seem turning round; her sight becomes obscure; she fancies that different things are floating before her eyes; her face becomes pale; there is a rushing noise in her ears, and she faints, or becomes insensible. During the fit, the wrist is pulseless, the heart beats very faintly, respiration is nearly suspended, the muscles lose their power, and a cold sweat breaks out over the body. There are, however, no convulsive motions of the limbs, nor any frothing at the mouth. After an interval, varying from a few minutes to several hours, respiration becomes more distinct, the patient utters a few long-drawn sighs, the pulse at the wrist becomes perceptible, the color partially revisits the face, and consciousness is restored. In some cases, consciousness is not entirely lost; and in others, still more rare, it is long before it is regained. The patient may even pass into a state of asphyxia, and die.

Dr. Burns has described another form of the disease. He says, "There is a species of syncope that I have oftener than once found to prove fatal in the early stage of pregnancy—dependant, I apprehend, on organic affections of the heart, that viscus being enlarged, or otherwise diseased, though perhaps so slightly as not previously to give rise to any troublesome, far less any pathognomonic symptoms. Although I have met with this fatal termination most frequently in the early stage, yet I have also seen it take place so late as the sixth month of pregnancy."*

It is probable that an occasional fainting may do no mischief to the fœtus; but we cannot suppose its frequent occurrence to be innocuous, when we consider the dependance of the fœtus upon the maternal circulation for the aeration of its blood. Cases are on record, where abortion followed repeated syncope.†

Towards the end of pregnancy, fainting is regarded with great suspicion, not so much for the immediate consequences, as for its effect upon the convalescence after parturition.

Syncope is a very unpleasant occurrence at the time of labor; it sometimes follows each pain, causing great alarm, and without apparently influencing the progress of delivery, as in a case under my care, in which no evil results followed;‡ but in other cases the convalescence would seem to be compromised by it. Dr. Merriman judiciously observes, "It seems to be one of those occurrences during labor, which should never be totally disregarded, or treated with indifference. An accoucheur was once attending a young woman, in labour of her first

* Midwifery, p. 264.
† Capuron, Mal. des Femmes, p. 415.
‡ Dewees, Midwifery, p. 252.

child. Soon after it commenced, and during his absence, she fainted without any obvious cause. On his return, the circumstance was mentioned, but as by this time she appeared perfectly recovered, no further notice was taken of it, and she was safely delivered, without any other unusual symptom. On the third day after delivery, she took a dose of some aperient medicine, and while in the act of relieving herself, she fell back, and immediately expired."*

497. *Diagnosis.*—It will be necessary to distinguish this fainting, arising from functional disturbance, from that induced by organic disease of the heart, which in most cases may be done by auscultation.

Further, we may have fainting as a consequence of internal hemorrhage, but it is generally more prolonged, accompanied with tension of the abdomen, dull pain and weight in the pelvic region, permanent blanching of the surface, and, after a short time, by escape of blood from the vagina.

Syncope may be distinguished from an *hysteric* paroxysm by the absence of convulsive motions of the limbs, distortion of the face, and frothing at the mouth.

498. The *Prognosis* is only grave in those cases where the syncope is repeated and prolonged, accompanied with head-ache, or where there is evidence of organic disease.

499. *Treatment.*—During the paroxysm, our first attempt must be to restore the circulation by means of stimulants, as wine, hartshorn, carbonate of ammonia, &c. The patient should also be laid in a horizontal posture, with the head low, and a current of air be suffered to blow over the face. A sprinkling of cold water is often successful.

If the insensibility be prolonged, the patient must be brought near the fire, and frictions used to "preserve the heat of the body; otherwise a protracted syncope may end in death."

Between the attacks, we must endeavour to strengthen the system by air and moderate exercise, and the exhibition of tonics, such as quinine, infusion of orange peel, &c.

The bowels must be carefully attended to, and every possible cause strictly avoided.

If the palpitation or fainting should depend upon organic disease of the heart, and labor should come on, it appears to me desirable to hasten the labor by the application of the forceps. In a case of disease of the nritral valve, which has recently come under my care, I have adopted this plan with entire success.

* Synopsis of Difficult Parturition, p. 137.

DISORDERS OF THE RESPIRATORY SYSTEM.

CHAPTER I.

DYSPNŒA.

500. Difficulty of breathing may attack females at any period of pregnancy; sometimes we find it during the early months; in other cases about the period of quickening; but most frequently during the latter months.

A different pathological cause has been assigned for each of these periods. During the early months, the affection would seem to be of an hysteric character, brought on by the sympathy with the uterus very often connected with the palpitations of which I have recently treated, and occurring in women of a nervous temperament. This seizure is generally sudden, the duration uncertain, though short, and without constitutional disturbance. M. Capuron remarks that "some naturally nervous females breathe with more than ordinary difficulty after conception, owing to a state of spasm produced by sympathy of the uterus with the entire organism. Others only experience this about the middle of pregnancy; and these are chiefly those of a plethoric or sanguine temperament, who previously menstruated profusely, or those who lead an indolent life, and indulge in the pleasures of the table. Lastly, there are few women whose respiration is not more or less impeded during the latter months of pregnancy, especially with the first child, because then the abdominal parietes are more resisting, and press the womb more upwards towards the diaphragm."*

When the dyspnœa occurs about the middle of gestation, it is principally (though not entirely) among the robust and healthy, and seems to be owing to a plethoric or congested state of the lungs. Some authors attribute it to pneumonia, which is said to be not infrequent.

* Mal. des Femmes, p. 432.

Imbert speaks of the occurrence of pulmonary apoplexy as a cause of dyspnœa. He says, "The dyspnœa which accoucheurs attribute to plethora would be rendered more intelligible by stethoscopic researches. What is the state of the pulmonary parenchyme, or of the mucous membrane, in this affection? It is probably very variable. These researches would be the more useful, as it is of the greatest importance to prevent pulmonary congestions. Many accoucheurs have pointed out the frequency of pneumonia in pregnant women, and the danger which attends it, and I have had three times an opportunity of seeing this melancholy prognosis verified. It is in these cases that we observe the terrible congestions known by the term 'pulmonary apoplexies.'"*

In this variety there is often a good deal of constitutional disturbance: the countenance is flushed, the pulse is quick, and the patient complains of a weight in the head, &c.

The third variety of dyspnœa which occurs during the latter months of pregnancy depends apparently upon a mechanical cause, viz., the pressure of the enlarging uterus, which, carrying above it the intestines, ultimately pushes up the diaphragm, and by distention of the abdominal parietes prevents the expansion of the chest.† This is observed especially in first pregnancies, in which, owing to the resistance offered by the abdomen, the uterus is more perpendicular than subsequently. If in such cases there be any inflammation of the chest, the distress is much aggravated.

I shall merely mention, as another cause, the presence of organic disease, as phthisis, during (though unconnected with) pregnancy.

Amongst the exciting causes may be mentioned excessive fatigue, mental emotions, affections of the circulating and nervous systems; and especially a peculiar condition of the latter arising from certain odours. A curious variety of the disease, depending upon this cause, has received the name of hay-fever. This occurs during the summer, from the perfume of new hay. The patient may be quite free from the disease in town, but whenever she drives into the country, and inhales the rich odour of the newly mown grass, the dyspnœa comes on, and is only relieved by removing to a distance from the cause.

501. The *Prognosis* of this disease is not serious, except when there is an organic affection of the lungs or heart.

502. *Treatment.*—During the early months, when the disorder is merely an hysteric attack, it is often relieved by antispasmodics, or diffusible stimulants, such as valerian, hartshorn, ether, &c. with mild tonics during the intervals. If we fail, still, in many cases we shall find the dyspnœa cease as pregnancy advances.

When the attack arises from congestion of the lungs, venæsection

* Mal. des Femmes, vol. i. p. 401.

† Gardien, Traitè des Accouch. vol. ii. p. 85.

516. *Treatment.*—The indication is to calm the nervous irritation if possible, and very simple means will sometimes succeed. Dr. Denman mentions a draught of cold water, just as the patient steps into bed, or wrapping a wet towel round one hand.

Pediluvia at bed-time will occasionally answer the purpose; but they should be avoided if there be any disposition to abortion or premature labor. A laxative is often very useful, by cooling the system. If these means fail, an anodyne must be given, and it is better to begin with the mildest.

In some cases it may be advisable to abstract blood from the arm, in moderate quantity.

All stimulants must be avoided; the patient should take neither tea nor coffee, and the diet generally should be bland, light, and nutritious.

Air and exercise are of great use, if taken without excessive fatigue.

If the patient be very weak, tonics may be necessary; but they must be given with caution, lest they add to the evil instead of removing it.

CHAPTER II.

DESPONDENCY, OR HYPOCHONDRIASIS.

517. It is not surprising that a degree of low spirits or despondency should attend a first pregnancy, when we consider the uncertainty the patient must feel both as to the suffering and the result, especially where her friends are so injudicious as to inform her of the various accidents which have occurred within the circle of their acquaintance.*

happens after conception. But this is not so when sleep and rest have entirely disappeared, when the whole system is disturbed, and when this condition is permanent. Such women are threatened with the gravest accidents, such as convulsions, hemorrhage, abortion, &c."—*Capuron, Mal. des Femmes*, p. 456.

* "This solicitude or discomfort may proceed from the mere dread of what they expect to suffer at the time of labor; or from reports inadvertantly made, of untoward accidents which have happened to some of their friends or acquaintance, who were in the same predica-

Again, after her first confinement, supposing that to have terminated regularly, any deviation from the ordinary course of gestation in a subsequent pregnancy—for example, sickness lasting the whole day, delay in quickening, &c. will excite fears of something being wrong, and anticipations of serious consequences at the time of parturition, which it is very difficult to remove, as the patient is apt to suppose that we are administering comfort without strict regard to truth.

I have already mentioned that the sympathy of the brain with the womb, and the discomforts of early pregnancy, produce a state of mind peculiarly susceptible to morbid impressions. It may also produce positive despondency, without any special cause, the patient not anticipating any peculiar danger, and there being nothing unusual or alarming in her condition. Still she is unable to keep up her spirits; she becomes melancholy and unhappy, is frequently in tears, and sees every thing around and before her through an unfavorable medium.

Should there be any circumstances of a distressing character connected with the patient, this melancholy disposition will be much increased, and its termination probably much more unfortunate. Many examples might be adduced; but I shall merely mention, that among the poorer classes I have repeatedly seen the worst consequences follow the desertion of a wife and family by the husband, or even from the death of the husband. Of ten deaths after labor, which occurred in four years in the Western Lying-in Hospital, four were connected with circumstances of this deplorable kind.

The attack is often confined to the early months of pregnancy, during which the bodily discomfort is the greatest; as this diminishes, the tone of the mind is restored, and the despondency disappears.

Even where the despondency continues until the period of parturition, we see it disappear as the pains set in and increase, so that the patient, who for months has been expecting death, at the moment when she supposes she has to meet it, finds her courage rise, and her fears vanish.

But this is not always the case: in some, the despondency and dread deepen towards the termination of gestation, until the patient is occupied solely by her fears, to the exclusion of all interest in life. There can be little doubt, that in many cases this is owing to a cerebral derangement nearly equivalent to insanity, in which it may end even before delivery.

The danger, however, is by no means ended, if the patient arrive safely to the commencement of labor. A continuation of these fear-

ment with themselves. In some cases, there seem to be strange impressions made on the mind from some affections of the body, not then obvious, but showing themselves at the time of labor, or after delivery."—*Denman's Midwifery*, p. 163.

When the head-ache is in consequence of plethora, on the contrary, the pulse is quick, full, and strong, the face flushed, the eyes bright or suffused, the eye-lids heavy and closed, with intolerance of both light and sound. The pain may be dull or acute, commencing over the eye-brow, and extending to the entire head, with but few intervals of ease.*

Either variety may arise from constipation; but in addition to their peculiar characteristics, we shall then find symptoms of gastric disturbance, such as loaded tongue, bad taste in the mouth, &c. The head-ache also will be increased after meals.†

522. *Prognosis.*—If the head-ache be purely nervous, there is no danger; but if it arise from congestion, or vascular action in the head, our opinion must be guarded, as it may be of importance in itself, but more so as threatening convulsions if not relieved.

523. *Treatment.*—Nervous head-aches may usually be relieved by antispasmodic medicines, or diffusible stimuli, such as valerian, hartshorn, &c.

Eau de Cologne applied to the forehead, or a blister behind the ears, is often useful.

A brisk purgative should also be given occasionally.

A much more active treatment will be necessary when there are any symptoms of plethora or vascular excitement about the head, both for the relief of the pain, and for the purpose of anticipating evil consequences. Blood should be taken from the arm, in quantity according to the strength of the patient and the relief afforded; and this should be repeated, or leeches applied to the temples, if necessary. We are not to rest satisfied that enough has been done until the pain is relieved, and the arterial system reduced to the ordinary standard.

Purgatives should also be administered from time to time.

After a certain amount of good effect has been produced, great benefit will often result from the application of a blister to the nape of the neck.

* "When the cephalalgia depends upon a plethoric condition, it commences by pain over the eye-brow, extending speedily over the whole head. The patient is in a state of stupor, the eye-lids cannot be raised without difficulty, the eyes appear prominent and brilliant; the face is animated; the pulse full, strong, and sometimes dicrotous; the skin hot and high-colored."—*Capuron, Mal. des Femmes*, p. 452.

† "Derangement of the digestive system is as frequent a cause of head-ache as plethora. In such cases we find the usual signs of gastric disturbance, as loaded tongue, bad taste in the mouth, imperfect vision, &c. The head-ache proceeding from this cause is lancinating, with intervals of rest, coming on especially after a meal, or increasing if it were present before."—*Gardien, Traitè d'Accouch.* vol. ii. p. 72.

The state of the stomach must be attended to, and the diet carefully regulated. All stimuli must be avoided, and the food taken in moderate quantity.

Air and exercise are indispensably necessary.

CHAPTER IV.

CONVULSIONS.

524. ALTHOUGH convulsions occur during pregnancy, they also occur during parturition, and after delivery; and therefore, in order to treat the question completely, I must include all in the present chapter, although, according to the plan of this work, it is somewhat irregular so to do.

Convulsions may be partial or general: they may attack the muscles of the extremities, or the trunk, or the face only; or they may affect individual organs, as those of sight or speech; but of these it is not my present purpose to speak, but only of those which affect the body generally.

Few diseases have given rise to such different opinions as to the proper mode of treatment, in consequence, probably, of not distinguishing the different species of convulsions. In order to avoid this, and to make the matter as clear as possible, I shall adopt Dr. Dewees' division into *hysteric*, *epileptic*, and *apoplectic* convulsions.*

525. HYSTERIC CONVULSIONS.—This variety is confined to the period of gestation, and is more frequent during the early months than subsequently. Females of a nervous or hysterical constitution are the most obnoxious to them.

526. *Causes.*—Want of sleep, or excessive fatigue, may give rise to hysteric convulsions; or they may be caused by disordered digestion.

527. *Symptoms.*—The attack is generally preceded by a sense of tightness about the throat, by sobbing, or repeated attempts at swallowing. The patient then becomes still and motionless, or may roll about from side to side. The hands are frequently pressed upon the breast, or carried to the neck, as though to remove some obstruction. The face is generally, though not always pale, and not distorted; no

* Compendium of Midwifery, p. 497.

froth issues from the mouth; nor are there the convulsive motions of the lower jaw, by which in epilepsy the tongue is sometimes severely bitten. In many cases the muscles of the back are violently contracted, which Dr. Dewees thinks a pathognomonic symptom. The patient is not insensible, though she cannot express her feelings or wishes.

After this state has continued for a longer or shorter time, the sobbing becomes more violent, or the patient screams and sheds tears, and the fit thus terminates. A great quantity of limpid urine is also discharged.

The paroxysm may be a single occurrence, or return after a time, with the same phenomena.

It does not generally influence the progress of gestation, though I have seen premature labour take place during the paroxysm.

The mother's health may be rendered rather more delicate, but it is not seriously compromised by the disorder, provided the disease preserve its primitive form; but I have lately had reason to believe that these hysteric convulsions occasionally degenerate into epilepsy.

528. *Diagnosis.* 1. *From epileptic convulsions.*—The body is but slightly contorted; there is not complete insensibility; there is no frothing at the mouth, nor biting the tongue, nor stertorous breathing; and after the fit is over, the patient recovers her usual state—the reverse of all which symptoms occurs in epileptic convulsions.

2. *From apoplectic convulsions.*—In these the patient loses consciousness and voluntary motion at once, and ultimately all motion ceases. This is not the case in hysteric convulsions; besides which, in the latter, the breathing is not stertorous, and the patient soon recovers.

529. *Treatment.*—If the pulse be quick (which is not ordinarily the case), or if the head-ache, venæsection may be practised, or a few leeches be applied to the forehead; but this is rarely necessary. In most cases, antispasmodics, combined with diffusible stimuli (valerian or assafœtida, with ammonia), will relieve the patient. Volatile alkali, held to the nostrils, is useful; or cold water dashed upon the face.

When the paroxysm is over, a moderate dose of opium may be given; and after a sound sleep, the patient will find herself nearly restored.

The stomach must be attended to. Tonics may be given if necessary, and aperient medicine.

530. II. EPILEPTIC CONVULSIONS.—This variety is by far the most frequent of all, and incomparably more serious than the former. The following table will give a tolerably accurate notion of the frequency.

AUTHORS.	TOTAL NUMBER OF CASES.	CONVULSIONS.
Dr. Bland...	1,897	2
Dr. Jos. Clark	10,387	19
Dr. Merriman	2,947	5
Dr. Granville	640	1
Dr. Cusack	398	6
Dr. Maunsell...	848	4
Dr. Collins	16,654	30
Dr. Beatty	399	1
Dr. Ashwell	1,266	3
Dr. Mantell	2,510	6
Dr. Churchill	600	2
Mad. Bovin	20,357	19
Mad. Lachapelle	38,000	61
Drs. Hardy and M'Clintock	6,634	13

Thus we have 172 cases of convulsion in 103,537 cases of labour; or one in about 602.

Women of all temperaments may be attacked, but it is more common, as Dr. Collins has remarked, "in strong plethoric young women with their first children; more especially in such as are of a coarse make, with short thick necks."* Dr. Ramsbotham has stated that "women with large families are equally or perhaps more liable to be assailed." This, however, is not borne out by numerical investigation, for of 36 cases related by Dr. Merriman, 28 were with first children. Of Dr. Ramsbotham's own cases, more than two-thirds were with first children; and of Dr. Collins' 30 cases, 29 were with first children.

531. *Causes.*—Various and very obscure have been the explanations of the causes of puerperal convulsions. Dr. Locock thus enumerates them: "The immediate causes of puerperal convulsions are often very obscure. They appear sometimes to depend upon a loaded state of the brain; at other times the brain appears to be influenced by distant irritation, either in the uterus or digestive organs; and again, in some cases, puerperal convulsions are induced apparently by a peculiar irritability of the nervous system. It has been remarked that there has been a greater disposition to puerperal convulsions in those patients

* Pract. Treatise on Midwifery, p. 199.

who have been in early life subject to convulsive attacks, particularly of an epileptic character; and also in those who have suffered similarly in former labors, and have omitted those measures usually employed as precautions. That the uterine organs are in some way particularly implicated, is evident from the convulsions being of a character which may be said to be peculiar to the state of either pregnancy or parturition." "The immediate attack may be brought on by a loaded or disordered stomach, or by food, however small in quantity, of an indigestible kind. Some substances, (shell-fish for instance), have been found very frequently to induce convulsions in the puerperal condition, when at other times they may have been taken by the same individual with perfect impunity. A sudden fright, afflicting intelligence, or any unexpected or depressing mental emotion, may excite the paroxysm; hence it has been long remarked, that unmarried women are more particularly likely to be sufferers from convulsions, from the shame and distress under which their children are usually born. The violent straining caused by labour pains, from the disturbance of the frame by the earlier uterine contractions, causing a temporary rush of blood to the head, will sometimes bring on convulsions."*

The application of Dr. Marshall Hall's theory, however, by Drs. Thompson, Murphy, and Tyler Smith, has thrown much light upon the matter. The former gentleman insists that no injury to the cerebrum or cerebellum can cause convulsions, so long as the true spinal system is not involved, in which Dr. T. Smith agrees with him. He considers that the proximate cause of puerperal convulsion consists in a morbid irritation of the true spinal system, and more especially of the medulla oblongata, propagated to it from the mucous surfaces, through the incident nerves of the excito-motor system.†

Dr. Murphy‡ enumerates, among the proximate causes, morbid irritation of the uterus from hyperemia or anemia, and morbid irritation of other organs, and regards the whole as a beautiful illustration of the reflex nervous function; the peripheral nerves that supply the affected organ rapidly communicating their irritation to the spinal system, which, as an excito-motor centre, radiates the irritation over the whole of the voluntary muscles, and the muscles of respiration. Even the involuntary muscles, as the uterus and heart, do not escape.

Dr. Tyler Smith has entered into a most elaborate investigation of the causes of convulsions: after which he observes:—"in conclusion, to give a summary of the whole subject, the true puerperal convulsion can only occur when the central organ of this system, the *spinal marrow*, has been acted on by an excited condition of an important

* Cycl. of Pract. Med. Art. Puerperal Convulsions.

† Essay on the Epileptic form of Puerperal Convulsions. Ranking, vol. viii. p. 313.

‡ Lectures in Med. Gazette, Jan. 1849.

class of its incident nerves, namely, those passing from the uterine organs to the spinal centre, such excitement depending on pregnancy, labor, or the puerperal state. While the spinal marrow remains under the influence of either of these stimuli, convulsions may occur from two series of causes: those acting primarily in the spinal marrow, or *centric* causes; and secondly, those affecting the extremities of its incident nerves; causes of *excentric* or peripheral origin.

I. Causes acting immediately on the central organ:

1. Pressure exerted on the medulla oblongata by congestion, coagula, nervous effusion within the cranium.

2. Loss of blood.

3. Morbid elements in the blood.

4. The influence of emotion.

II. Causes acting on the extremities of the excitor nerves:

1. Irritation of the incident spinal nerves of the uterus and uterine passages.

2. Irritation of excitor nerves within the cranium.

3. Irritation of the incident spinal nerves of the rectum.

4. Irritation of the ovarian nerves.

5. Irritation of the gastric and intestinal branches of the pneumogastric nerves.

6. Irritation of the incident spinal nerves of the bladder.

7. As probable causes, may be enumerated irritation of the cutaneous nerves of the mammæ, and of the hepatic and renal branches of the pneumo-gastric.

"Though the subject distinctly admits of this division, several causes may act together, and centric and excentric causes may be in operation at the same time. I have made no attempt at a division into predisposing and exciting, proximate and remote causes, as other authors have usually done, because it is evident that a cause which in one case is the exciting or proximate, may in another be the predisposing or remote cause."*

Subsequently Dr. Tyler Smith endeavours to explain the operation of the causes, and to trace the gradual progress from the slight commencement up to the completion of the convulsive paroxysm; but the investigation, though able and full of interest, is too long for quotation, and I must refer my readers to his work, with an assurance that the perusal of the whole will abundantly repay them.

Among the most common exciting causes are usually enumerated intemperance in eating and drinking; mental emotion; fright, as in the case related by Denman, of a lady who was going on a party of pleasure, and whose carriage broke down; she was near the time of her lying-in, and was very much frightened, though she received no appa-

* Parturition and Obstetrics, p. 306.

rent injury. When she fell into labor, this was preceded by convulsions, in which she died undelivered.*

Mr. Robbs has related a case† in which the convulsions seem to have been owing to the irritation of worms; at least, they ceased on the expulsion of two large lumbrici.

Dr. Cormack has published an excellent paper on the connexion between renal congestion and puerperal convulsions.‡ He considers that in many cases the latter are the toxicological results of non-elimination of the excretions of the blood, and that in the great majority of cases this non-elimination depends upon renal congestion, caused by the pressure of the gravid uterus.

Atmospheric influence, according to M. Dugès,§ appears to have some peculiar effect in producing the disease, so that it assumes the character of an epidemic. This is confirmed by the observation of Dr. Ramsbotham, who observes:—"I have repeatedly remarked, among the numerous patients of the Royal Maternity Charity, as well as among others to whom I have been accidentally called, that several cases have occurred soon after each other. Whether this fact ought to be attributed to mere chance, or to the agency of some general principle upon the female system, I must leave to others to determine in future; but I am inclined to suspect that it may be ascribed to the latter principle. And here I may be allowed to observe, that I have witnessed the occurrence of several cases during warm weather; at a time when the clouds have been charged with electric fluid; when atmospheric appearances have threatened a thunderstorm, and when perhaps they have ended in one."‖ And most practitioners will probably have had occasion to remark the occurrence of several cases about the same time, as if they depended upon some general cause.

Many authors have assumed the previous occurrence of epilepsy, as a predisposing cause of puerperal convulsions, as I did myself in the previous editions of this work, but I am induced to think this very doubtful. In the work from which I have quoted, Dr. Tyler Smith observes that "the suspected affinities between epilepsy and puerperal convulsions deserve attention. It would seem, *a priori*, that epileptics, or persons who had been subject to convulsions during infancy, would be far more liable than others to attacks of convulsion during the puerperal state. It would also seem probable that patients suffering from puerperal convulsions should become subsequently liable to epileptic

* Introd. to Midwifery, p. 429.
† Med. Gazette, Sept. 21, 1849.
‡ Lancet, April 13, 1850.
§ Dict. de Med. et de Chir. Prat. vol. vi. p. 541.
‖ Pract. Obs. in Midwifery, vol. i. p. 250.

attacks. But experience does not positively support either of these probabilities."*

Of three cases of severe epilepsy before marriage which have come under my care, in one only was there any attack during gestation or parturition, whilst in the numerous cases of puerperal convulsions I have seen, I have not known one in which the convulsions returned in the absence of pregnancy.

There is a curious instance on record of periodical convulsions during the time of gestation only. "The wife of a citizen of Ferrara, 20 years of age, of a bilious constitution, and the mother of three children, was attacked with *periodical epilepsy* whenever she conceived, and sustained a paroxysm of that malady once a fortnight during the whole of her gestation; but as soon as she was delivered, the disease left her. Its occurrence, therefore, was always to her a sign that she had become pregnant."†

532. *Symptoms.*—The symptoms in epileptic convulsions resemble very closely, if they are not identical with those of ordinary epilepsy. In the majority of cases there are certain premonitory symptoms. The patient, for some time previous, suffers from pain in the head, giddiness, confusion, ringing noise in the ears, obscure vision, temporary loss of sensation, rigors, nausea, or even vomiting. The face is flushed, and the eyes injected.

Dr. Hamilton mentions as peculiar, an intense pain in the forehead; and Dr. Denman, a severe pain in the stomach, and these he thinks the worse kind of cases.

Osiander has noticed a tumid state of the hands and face preceding the attack. Most practitioners are familiar with a dropsical swelling of the face alone, or face and upper extremities, which is not uncommonly followed by convulsions, and which we may regard undoubtedly as a procursory symptom, if the urine be at the same time albuminous.

In some few cases, however, there are no precursory symptoms; the patient has no warning until the moment before she becomes insensible. The "aura epileptica" is seldom felt.

As the attack approaches, these symptoms are aggravated; the pupils become dilated, the face more injected, the eyes fixed, and the patient loses consciousness.

During the attack, the face is swollen, of a dark red or violet colour, and distorted by spasmodic contractions; the eyes are agitated, the tongue protruded, and the under jaw repeatedly closed with force, so as to wound the tongue. A quantity of froth is ejected from

* Parturition and Obstetrics, p. 323.

† Comm. by Lanzoni, Ephem. Germ. dec. ii. an. 10, p. 160.

the mouth, which is generally drawn more to one side of the face than the other.

The muscles of the body are thrown into violent and irregular action; the limbs are jerked in all directions, and with such force that it is sometimes difficult to keep the patient in bed.

The respiration is at first irregular, and being forced through the closed teeth and the foam at the mouth, has a peculiar hissing sound; it subsequently becomes nearly suspended. The pulse is quick, and at the beginning full and hard, but afterwards small and almost imperceptible. The body participates in the purple colour of the face. The urine and fæces are often passed involuntarily.

This terrible paroxysm, however, is not of very long duration. After a period, varying from five minutes to half an hour, the convulsive movements become less violent, and gradually subside; the countenance is less distorted, and assumes a more natural and placid appearance, the eyelids close, the respiration becomes more regular, though still sibilant, and the circulation is restored, the pulse becoming more perceptible, though still very quick. The patient rests quietly in bed, and the paroxysm has terminated for the time.

During the interval, the patient's condition is very variable. She may partially recover consciousness, so as to recognise persons around her, and to be aware of something extraordinary having happened, without knowing what, and without being able to express herself clearly.

In other cases, the return of intelligence (but without recollection) may be complete until the approach of the next fit, accompanied with great weakness, head-ache, and confusion. These are the more favourable cases.

Others, again, remain in a state of total insensibility, almost approaching to coma or asphyxia, with sibilant or stertorous breathing, and without muscular motion, or with a restless throwing about of the body and extremities.

This calm is, however, of no very long duration; it may be half an hour, or two hours, but sooner or later the paroxysms return, to be succeeded by an interval which in its turn gives place to a paroxysm. I have known as many as eighteen paroxysms occur in twenty-four hours.*

* "The above terrific appearances are not of long duration; and it is some consolation to know that the patient is not conscious of suffering. After the lapse of a minute or two, the irregular movements of the trunk and extremities gradually subside, and are bye and bye suspended altogether; the countenance assumes a more natural and placid aspect, the eyelids close, the respiration becomes more regular, the balance of the vascular circulation is in some degree restored, and a

Dr. Lever, of London, has recently pointed out the presence of albumen in the urine of women attacked by convulsions. He says, "I have carefully examined the urine in every case of puerperal convulsions that has since come under my notice, both in the Lying-in Charity of Guy's Hospital, and in private practice, and in every case but one the urine has been found albuminous at the time of the convulsions." "I further have investigated the condition of the urine in upwards of fifty women, from whom the secretion has been drawn, during labor, by the catheter; great care being taken that none of the vaginal discharges were mixed with the fluid; and the result has been, that in no cases have I detected albumen except in those in which there have been convulsions, or in which symptoms have presented themselves which are readily recognised as precursors of puerperal fits."

The termination of the attack varies in different patients; some remain in a state of half stupor and great exhaustion for hours or days, and gradually recover. Other patients become maniacal, and may even remain so for a long time, and ultimately recover. I had a patient who remained in a state of mental derangement for several months before she was restored to health.* In a few cases the patient continues comatose, and gradually passes into a state resembling apoplexy, and dies.

"It is not always, however, that the recovery is complete. Sometimes the patient lies apoplectic, or in a state analogous; or she is deaf, or blind, or incapable of speaking, or both; or the limbs are benumbed. In fine, it seems as if the sensorium had received some permanent injury, the corresponding parts of the body suffering in consequence."†

533. I have already mentioned that convulsions may attack the

truce (from the foregoing frightful symptoms at least) is for a time obtained, by their spontaneous cessation. But this favourable state is not destined to be of long duration. A repetition of the phenomena, only variable as to the time of return in different cases, again occurs in a similar paroxysm, and probably with increased violence. After this has exhausted itself, an interval of relief once more ensues. Another paroxysm succeeds at about an equal distance of time, which is followed by another truce. Thus do paroxysms and intervals alternate at nearly regular periods, until permanent relief is procured by means of art; or until the powers of the system are worn out by the numerous repetitions."—*Ramsbotham's Observations in Midwifery*, vol. ii. p. 244.

* Campbell's Midwifery, p. 503.

† Blundell's Obstetricy, p. 638.

patients either *during pregnancy*, at *the time of parturition*, or *after delivery*.*

It will be necessary to say a few words upon its occurrence at each of these periods.

Pregnant women are more especially obnoxious to this disease during the latter two months of gestation, though it may occur at an earlier period, and at irregular intervals. The nearer the patient is to her confinement, the greater the risk of an attack, on account of the extreme distension of the uterus, and its increased irritability.

Although the beginning of labor cannot be detected, either by an internal or external examination, at the outset of these attacks, yet during its continuance, labor may commence, and run a natural course. In such a case the fits will be found synchronous with uterine contractions, though not recurring with each.

In many cases, however, the uterus remains perfectly quiescent, and gestation may be carried on for a time longer. In almost all cases the child is still-born, often putrid; but whether its death preceded the convulsions, or resulted from them, is not easily determined. When the former is the case, may we not attribute the convulsions to the dead child acting in some sort as a foreign body?

The labor runs a natural course generally, and in a fair proportion of cases the mother recovers tolerably well, though there are startling exceptions, as in the following instance: "A lady, in the end of her pregnancy, was seized with convulsions; her attendant was sent for, and decided that there were no indications of labor, and that a stay was unnecessary. The midwife left the house, and returning early the following morning, the patient was found dead: the child, too, the birth of which no one seems to have suspected, lay lifeless beneath the clothes."†

When convulsions occur at the commencement of labor, it might naturally be attributed, in some cases at least, to malpresentation of the child; but this is not the case. Malpresentation is observed very rarely in cases of convulsions.

During labor, the return of the paroxysm takes place at the commencement of a labor pain, although not with every pain. There is a greater expression of suffering from the uterine contraction than from

* "When the result proves thus satisfactory, the convulsions seldom return; but the woman rarely completes her full period of gestation. The process of labor commonly commences within the space of a few days; sometimes within that of twenty-four hours. Its progress is as regular and natural as if no previous derangement had taken place; but the child is too frequently still-born, and occasionally shows marks of approaching putrefaction."—*Ramsbotham, Pract. Obs. in Midwifery*, p. 641, *note*.

† Blundell's Obstetricy, p. 641, *note*.

the convulsion. The symptoms I have described appear to be more intense when the attack comes on during labor than during gestation.

The uterine contractions do not appear to be impeded by the fits; the labor generally runs a natural course in the usual time, if not terminated by art; neither is it necessarily fatal to the infant, although there is great danger.

It is remarkable, and not easily explicable, that after the convulsions have ceased, and the labor is over, there is a great tendency to abdominal inflammation, adding fearfully to the mother's risk. Denman, I believe, was the first to point out this fact, which Dr. Collins and others have confirmed: and which should be remembered in the treatment.

When the patient is attacked by convulsions *after delivery*, they generally occur from two to four hours after the birth of the child, sometimes later. There can be little hesitation in attributing them to some injury received by the nervous system during labor, though we may not be able to specify the particular mischief. It does not, however, depend upon the length or difficulty of the labor; they occur as frequently after natural labor.

The loss of blood at the time of delivery does not necessarily prevent the occurrence of the fit, though it adds to the danger by the debility it occasions.

Duges considers cases of convulsions after delivery to be more tractable than any others, whilst Dr. Ramsbotham states exactly the contrary. I should say that the cases where the convulsions occur during labor, and continue afterwards, are the least manageable; next to these the attack during labor only; then, those after delivery; and lastly, the most favorable are those which occur during gestation.

After recovery from the consequences of the attack, the patient may enjoy her usual health, and her subsequent pregnancies do not appear to be very liable to similar attacks.

534. PATHOLOGY.—In the majority of cases, a *post mortem* examination affords but little information. In many instances there is no deviation whatever from the healthy state of the brain.

Sometimes the vessels of the brain are turgid with blood; and in other cases there is a quantity of serum effused on the surface and base of the brain, or into the ventricles.

The heart is generally flaccid and empty, and the lungs of a pale color. Some fluid is occasionally found in the pleura, or pericardium.

Traces of inflammation have also been discovered in the peritoneum.

535. *Diagnosis.*—I. *From hysteric convulsions.*—In the attack I have just described, there is a total loss of consciousness, great muscular action, frothing at the mouth, frequent recurrence of paroxysms, and incomplete restoration or total insensibility during the intervals. In hysteric convulsions, on the contrary, the patient scarcely loses

consciousness, exhibits only moderate spasmodic action, has no frothing at the mouth, does not suffer from a frequent recurrence of the fits, and recovers shortly after each. The sobbing, sighing, weeping, and screaming of the hysteric convulsion are also peculiar to it.

2. *From apoplectic convulsions.*—In epileptic convulsions, the whole body is thrown into violent spasms, which are repeated, with intervals of quiescence, and often of partial return of sense. The breathing is rather sibilant than stertorous, and the muscles preserve their tone even during the intervals; whereas in apoplectic convulsions, the spasmodic movements occur at the commencement, and are not repeated; sense and sensibility are totally lost, the breathing is stertorous, and the muscles lose all power, so that the arm, when raised and allowed to fall, does so like that of a person recently dead.

536. *Prognosis.*—On the whole, the mortality is considerable, though probably much less so than formerly. Jacob states that in his time scarcely any survived. Dr. Parr, in his Medical Dictionary, that six or seven out of ten die. Dr. Hunter, that the greater proportion were lost.

The following table will show the mortality, upon a tolerably large scale:

AUTHORS.	CASES OF CONVULSIONS.	MOTHERS LOST.
Mr. Giffard	4	2
Dr. Smellie	8	2
Mr. Perfect	14	5
Dr. Bland	2	0
Dr. John Clarke	19	6
Dr. Merriman	13	8
Dr. Ramsbotham	26	10
Dr. Maunsell	4	2
Dr. Collins	30	5
Dr. Beatty	1	0
Dr. Churchill	2	0
Mr. Mantell	6	2
Drs. M'Clintock and Hardy ...	13	3
Professor Meigs	20	3
Professor Huston	13	2

Thus, of 198 cases, 50 mothers were lost, or more than one-fourth.

537. *Treatment.*—At whatever time the attack takes place, the first thing to be done is to take away blood from the arm or temporal artery largely, and in a full stream. If the paroxysms continue, this may be repeated. Denman took 40oz. and Blundell 70oz. of blood from a patient under these circcmstances. We are not to be deterred from a free use of the lancet, by the absence of immediate relief—the benefit is rather in the ultimate and early recovery of the patient, than in the immediate arrest of the paroxysms.

"The quantity likely to suffice for the relief of a case of only threatened convulsions, might amount to between twenty and thirty ounces; but if the convulsions are supposed to have been long established, or to have taken place very suddenly, the practitioner would have to take away perhaps thirty or forty ounces of blood, or even *fifty*, in cases of great intensity of the symptoms. The rule should be, that the pulse must be reduced into a state of mellowness and softness, before the arm is allowed to be tied up. In a few extreme cases, in which the author has from time to time been consulted, he has considered it necessary to order a second bleeding, after the lapse of two or three hours subsequently to the former one. But he has never, that he recollects, recommended for the second bleeding the abstraction of more than fifteen ounces of blood.* Another good effect from venæsection is the prevention of the abdominal inflammation, to which we have seen that the patient is exposed subsequently.

If there be any objection to repeating the venæsection, leeches may be applied; or if the patient be sufficiently quiet, the nape of the neck may be cupped.

A strong purgative (calomel and jalap for example) should next be administered, as from the free evacuation of the bowels great benefit is generally derived; and it may also excite uterine contractions, and hasten the delivery.

The head may then be shaved, and cold lotion or ice applied. Denman speaks highly of cold effusion. He says, "on a patient in convulsions who had been bled, and for whom many other means had been fruitlessly used, I determined to try the effect of cold water. I sat down by the bed-side, with a large basin before me, and a bunch of feathers. She had a writhing of the body, and other indications of pain, evidently occasioned by the action of the uterus before the convulsions; and when these came on, I dashed the cold water in her face repeatedly, and prevented the convulsions. The effect was astonishing to the byestanders, and indeed to myself. On the return of the indications of pain, I renewed the use of the cold water with equal success; and proceeded in this manner until the patient was

* Davis's Obstetric Medicine, vol. ii. p. 1027.

delivered, which she was without any more convulsions, except once when the water was neglected."*

A warm bath has been recommended, but besides that its value is doubtful, it would in most cases be very difficult to administer it.

After the lapse of some time, the head and nape of the neck may be covered with blistering plaster, as counter-irritation will materially further the restoration of the patient.

When, after copious bleeding and purging, the attack is somewhat subsiding, it has been recommended to give an opiate. Considerable difference of opinion has existed upon this point, owing, I think, to the different parties not specifying with sufficient accuracy the time at which it should be administered, and the cases suitable for it. Under the circumstances I have mentioned, it seems to be the opinion of the highest authorities that it may be of service.

Dr. Collins remarks, "many of our best writers have actually condemned the use of opium in convulsion, stating it to be most injurious —some even destructive. Ample experience has convinced me, that it is not only harmless, but *highly beneficial* in those cases where the fits *continue after delivery*. And I should hope the cases adduced will prove satisfactorily, that it is also useful under many other circumstances, when proper steps had been previously taken. Its combination with tartar emetic, and occasionally with calomel, is most advantageous."

Calomel, given so as to affect the constitution, has been found beneficial. Dr. Collins speaks very highly of tartar emetic, in doses sufficient to produce nausea, but not vomiting. "In every severe case of convulsions, after having carried into effect the ordinary mode of treatment, as *bleeding freely*, *acting briskly* on the bowels with calomel and jalap, and at the same time adopting the means usually had recourse to for protecting the patient during a paroxysm, I endeavoured to bring her under the influence of tartar emetic, so as to nauseate effectually, without vomiting. With this view, a table spoonful of the following mixture was given every half hour:—

℞.	Aquæ Pulegii,	℥viii.
	Tartar Emetici,	gr. viii.
	Tinct. Opii,	gtt. xxx.
	Syr. Simpl	ʒii.
		M.

"In some cases the quantity of tartar emetic used was only four grains to an eight ounce mixture; and in others, the quantity of opium was somewhat increased."

It will be necessary to insert a wedge of leather or wood between

* Midwifery, p. 435

the teeth, to prevent injury to the tongue, and also to remove every thing out of the way, by striking against which the patient might hurt herself.

This treatment applies equally to convulsions occurring before, during, or after labor; except that in the latter case the quantity of blood taken must be modified according to the state of the patient.

The next important question is, *whether we are to interfere with the progress of gestation or parturition.*

I believe there is no dispute that until labor sets in naturally, interference would be injurious; so that in convulsions during gestation, we have nothing to do with the uterus, but must confine ourselves to the treatment of the convulsive disease.

If the attack take place at the commencement of labor, some practitioners have been anxious to hasten the operations of nature by manual dilatation; but this has been abandoned, and very properly, as likely to increase the convulsions, without advancing the progress of the delivery.* Belladonna has been applied to the cervix uteri for the purpose of dilatation, but I should doubt its utility, and dread its poisonous effects.† The older writers, with some moderns, have proposed incision of the cervix, but the risk would outbalance any benefit to be derived from so "heroic" a remedy.

But supposing the os uteri to be dilated or dilatable, are we then to proceed to delivery by art? This question has been much debated, and opposite opinions have been advocated. Some advise instant interference, and others no interference at all.‡

* "When the os internum began to dilate, I gently assisted during every pain, but being soon convinced that this endeavour brought on, continued, or increased the convulsions, I desisted, and left the work to nature."—*Denman's Introd. to Midwifery*, p. [illegible]30.

† "It will frequently happen that the os uteri does not dilate during the most violent convulsions—hence Chaussier recommends the application of a pomade containing belladonna. This preparation consists of two drachms of the extract, softened with an equal quantity of water, and triturated with about an ounce of prepared lard. A piece, the size of a small nut, is to be introduced into a female syringe, open at the extremity, and conveyed to the os uteri, where it is to be applied by pushing onwards the piston. In cases of unyielding rigidity of the os uteri, Van Swieten advised an incision to be made though its margin. Dubois, and subsequently Lauverjat, Bodin, and Coutouly, who considered it perfectly justifiable after bloodletting, the warm bath, and other means usually employed had failed, have had recourse to this operation."—*Blundell's Obstetricy*, p. 950, *note*.

‡ "These rules have, nevertheless, led to two methods of practice, offered with sufficient confidence, though diametrically opposite to

The true plan seems to be to avoid both extremes. We are not necessarily to interfere at this stage of the labor, beyond rupturing the membranes, which sometimes advances the progress of the labor.*

Version, or turning, has been often recommended, but from all the cases I have seen or collected, it would appear a most hazardous measure. Dr. Ramsbotham advises it, and yet three cases in which he practised it proved fatal. Five patients out of seven are generally lost. Dr. Collins is strongly opposed to it.

We may therefore conclude that version is not to be attempted.

But when the head has descended into the pelvis, so as to be within reach of the forceps, and there is sufficient space, it will be proper to apply that instrument, inasmuch as delivery, when it can be accomplished without injury, is very desirable.

The attempt must be made during an interval between the paroxysms, and should the introduction of the blades bring on a violent fit, it will be necessary to withdraw them, lest they should be forced through the vaginal or uterine parietes, during the struggles of the patient.

Should the head of the child be so fixed in the pelvis as to defy all reasonable efforts with the forceps, it may be necessary to use the perforator; but before doing this, the judicious practitioner will consider well the amount of benefit likely to be obtained, and the risk certainly incurred—recollecting that the child may be alive; that the labor may,

each other. According to the first (*Mauriceau, &c.*), which has been most generally approved and followed, it was deemed indispensably necessary to deliver the patient by art as expeditiously as possible, to free her from the cause of her impending danger. But according to the second (*Ræderer, &c.*), it being presumed that the convulsions appertained to the labor as symptoms, this, if natural in other respects, was to be suffered to go on without interposition, as if there were no convulsions, while we were to be engaged in using the most efficacious means for preventing their return, or for lessening the effect which might be produced by them."—*Denman's Introd. to Midwifery*, p. 425.

* "After bleeding, purging, and refrigeration, you may ask, is there no other remedy to which we can have resort?—Is it not further proper, in *all* cases of puerperal convulsions, to *deliver* the patient? In answer to the latter question, I must say "No,"—for it is, I believe, an ascertained fact, that more women die when they are officiously delivered by force, as it is called, than when they are committed to their own resources. That delivery is a powerful remedy in convulsions there can be no doubt; after the fœtus is expelled, the convulsions usually cease; but this remedy requires much discretion." *Blundell's Obstetricy*, p. 648.

if left to nature, terminate favorably; and that even if delivered by art, the fits may not necessarily cease.

If we are satisfied that the child is dead, we should be justified in delivering by the perforator and crotchet at an earlier period of labor, provided that the os uteri be dilated or dilatable, or that the head have passed through it, and that the convulsions be so formidable as to require speedy delivery.

After the convulsions have ceased, Dr. Collins remarks, "should the patient become maniacal, as is occasionally the result when the fits have been severe, and have continued for any length of time after delivery, all local distress, as pain in the head, or any symptom that would indicate abdominal complication, should be diligently looked after, and treated accordingly; as by so doing, keeping her fully under the influence of tartar emetic, at the same time acting well on the bowels, and excluding light from her room, as also all other external irritants, the best results may be expected. It is a great satisfaction to the friends of the patient in such a situation, to be assured that there is little liability to a return of this derangement of mind, as is the case in most other forms of mania."

538. APOPLECTIC CONVULSIONS.—This variety seldom or never occurs, except towards the termination or after the conclusion of labor. Dr. Burns indeed mentions its occurrence at the commencement of labor,* and MM. Morithon† and Menard,‡ at the sixth month of pregnancy.

539. *Causes.*—It is evidently caused by the stress upon the cerebral vessels during the labor pains.

It is very probable that anxiety of mind may predispose to the attack; at least, in one case I saw, this appeared to be the case.

540. *Symptoms.*—In many cases the patient suffers from pain and throbbing in the head for some days previously; but in others there are no premonitory symptoms.§

Generally speaking, during the labor the patient complains of headache; and during the second stage, the face may be observed to be much flushed, and the eyes injected.

* Midwifery, p. 527.

† Trans. Med. vol. v. p. 162.

‡ Ibid. vol. iv. p. 241.

§ "A woman in labor was put to bed, and made an effort to change her situation; she died instantly in the act of moving, but she had previously complained of a piercing pain in her head, and loss of sight.

"Another was in such a situation that the child was expected to be born the next pain. She threw herself back, and died instantly.

"Another raised herself in bed to take nourishment, about half an

Strictly speaking, there is but little convulsion; the body and extremities are agitated or thrown about for a short time, and then the patient lies in a comatose state. There is little or no distortion of the face, and no frothing at the mouth. The muscles become flaccid and powerless; the respiration is stertorous; there is no return of intelligence, and rarely any repetition of the paroxysm, though such cases have been recorded.

In almost all cases, the condition of the patient remains unaltered until death; but there are a few cases, answering, I presume, to the congestive apoplexy of Abercrombie and Lallemand, where our timely aid is successful, and the patient recovers sense and motion; and if proper care be taken, is speedily well.

The pulse is full and slow, and the pupils in some cases dilated, in others contracted, but in all insensible to light.

I do not know that I can give a better illustration of this disease than by relating the following cases. For the first I was indebted to my lamented friend, the late Dr. Aston: it appears to be a simple case of apoplexy from congestion. The second occurred in the practice of a dispensary to which I was attached. I quote them from a report I published some years ago in the *Medical Gazette*:—"Catherine Costello, æt. 18 years and 9 months, of low stature, and corpulent figure, complained first of severe head-ache on Wednesday, Jan. 2, 1833. The pain was more violent than any of the kind she had ever experienced. Sickness of the stomach set in nearly at the same time, and she continued throwing up green bilious matter during the entire day; the bowels were confined for four days; the face and extremities were much swelled, which commenced two days before, and continued gradually to increase as the head-ache became more intense. She wanted about seven weeks to complete the usual term of utero-gestation. I (Dr. Aston) was sent for in the evening; she was walking about the room, but suffering most acutely; the face was swelled to such a degree as almost to hide the eyes, and her speech was somewhat thick. The motion of the child had not been felt all day.

"As she had an objection to bleeding, I omitted it for the present, and directed some opening medicine to relieve the bowels; and having given the requisite directions, I left her; but in a few hours her husband came for me in all haste, requesting my immediate attendance,

hour after delivery. She fell back, and died immediately. She was opened by the celebrated Dr. Jenner. There was no effusion of blood in the brain, or in any other part, in any of these, but the heart was found flaccid, perhaps somewhat enlarged, and not a drop of blood in either the auricles or ventricles."—*Denman's Introd. to Midwifery*, p. 427.

as she had had a fit, and appeared to be in a dying state. Upon further inquiry, I was told that the pain in the head had got much worse—when suddenly the eyes became fixed, the face distorted, convulsive motions ensued, and ended with stertor, which must have been of short continuance, as no such symptoms existed when I visited her a short time afterwards, *although she was unconscious of anything that happened until after venæsection,* which I immediately performed to the extent of 18 or 19 oz. from which she experienced almost instantaneous relief. The heat of skin was much greater than natural; thirst extremely urgent; pulse pretty frequent, but inclined to hardness; after venæsection it became quicker; shortly after, slower and softer, until it gradually came down to the natural standard. From this time all the symptoms subsided, and she was delivered January 5th, and recovered well."

"Mary ——, æt. 30, was attended in her first confinement by a pupil of the Wellesley Dispensary, on Monday, November 20, 1832. The labor was natural, and terminated within the usual period. She complained of severe head-ache during her labor, and seemed sleepy towards the conclusion. After asking some question of the attendants, she settled to sleep; some irregular motions of the limbs were noticed by those in the room, but nothing further, until her breathing became loud and heavy, when, as they could not rouse her, I was sent for. I found her perfectly insensible; pupils fixed and contracted; breathing stertorous; heat of head but little increased; abdomen distended with flatus; muscles perfectly flaccid; pulse firm and tolerably full. The usual remedies were tried, but unsuccessfully, and she died during the night. A *post mortem* examination was permitted, and we found great effusion of blood filling both ventricles. A quantity of serum also was found at the base of the skull.

"On further inquiry, I learned that she had been the victim of seduction and desertion, and that she had suffered from depression of spirits and severe head-aches for some weeks before her confinement."

Very lately I have seen a case somewhat differing from the above. The patient was a very pale delicate woman, whose labor terminated naturally, quickly, and easily. Some time after she complained of head-ache, and was observed to speak with difficulty. When I saw her, I detected a slight degree of paralysis of the right side, for which I treated her in the usual manner, and for some days with apparent success. Having a call to the night-chair, however, she got out of bed with assistance, and another fit occurred before she could be replaced, from which she never rallied.

541. *Pathology.*—The brain may be found greatly congested, but without any effusion; but this I believe to be rare.

There may be great effusion of serum, which by its pressure will cause symptoms of apoplexy.

More frequently, blood is poured out into the ventricles, into the substance of the brain, or at its base.

Cases of this kind have been noticed by Denman,* Targioni,† Marchais,‡ Lachapelle,§ Leloutre,|| Schedel,¶ Velpeau,** &c.

542. *Diagnosis.*—The entire and persistent insensibility, the absence of repeated paroxysms with their accompanying symptoms, will at once enable us to distinguish apoplectic from epileptic or hysteric convulsions.

It is not easy to distinguish that form which arises from congestion from that caused by effusion—the chief difference being in the intensity of the symptoms.

543. *Treatment.*—The most active antiphlogistic measures should be instantly put in requisition; a large quantity of blood should be taken from the arm, jugular vein, or temporal artery, and repeated if necessary. This is the more requisite, as it is from the effect of blood-letting that we are mainly to look for the distinction between apoplexy from congestion, and apoplexy from effusion. If no relief whatever be afforded, the case may be regarded as nearly hopeless; but if the patient be at all benefited, the head should then be shaved, and ice applied.

After a short time, a large blister may be applied to the head or neck, and a brisk purgative given.

These remedies will generally afford relief in those cases which are susceptible of it, and they may be modified or repeated as circumstances may require.

* "The late Mr. Hewson informed me of a case of convulsions, in which, on examination after death, he found an effusion of blood, in a small quantity, on the surface of the brain. In a case of convulsions, in which the patient died in about eight hours after delivery, Dr. Hooper found a coagulum of blood, weighing near four ounces, lying between the dura and pia mater. It is probable that by more careful attention, instances of effusion of blood, in cases which proved fatal, might be found to have occurred more frequently than has been presumed."—*Introd. to Midwifery*, p. 427.

† Morgagni de Sed. et Causis Morb. epist. 2, sec. 8.

‡ C. Baudelocque, vol. iii. p. 17.

§ Prat. des Accouch. vol. iii. p. 37.

|| These, 1826, p. 12.

¶ Archiv. Gen. de Med. vol. xvi. p. 497.

** Ibid. vol. xvi. p. 494; and Convulsions chez les Femmes, p. 34.

CHAPTER V.

NERVOUS AFFECTIONS OF THE EYES AND EARS.

544. Certain nervous affections of the eyes and ears are not very unfrequent in females during pregnancy; nor is this surprising when we consider how many irritations are concentrated, as it were, upon the nervous system, and thence reflected. The majority of these attacks are purely nervous; but in some there appears to be some congestion of the brain, or of the organ affected.* They may either come on immediately after conception, or not till a later period.

545. If the *eyes* be chiefly affected, the patient may imagine that all the surrounding objects are dancing or turning round, or she may be so dazzled as to be incapable of distinct vision. In other cases she fancies she sees objects in the air, or flashes of light, &c.; more rarely, she sees everything double; or lastly, she may become quite amaurotic.† The following remarkable case I quote from Dr. Davis's work.

"Mad. Pivert, æt. 43, in the fifth month of her ninth pregnancy, became the subject of a deep seated pain of the *right* eye, suddenly, and without any known cause. This did not manifest itself by any external sign. The patient experienced no heat in the organ. Examination could discover neither redness nor secretion of tears. There was, however, a sensation of strong pulsation at the bottom of the orbit, accompanied by acute and frequently repeated lancinating pains, by the appearance of rapidly darting sparks before the eyes, and by errors of vision. Pain of the forehead, and about the root of the nose, together with a sense of weight and oppression at those parts, aggravated the patient's distress. In a short time the rays of light ceased to irritate the retina; the eye became insensible to the contact of the finger, and the patient could intensely stare at the sun without producing any painful excitement: the eye, however, retained its form and natural transparency. Inability to sleep accompanied this local affection for several weeks. A bleeding at the arm, which moderated the symptoms, was the only curative measure had recourse to. The delivery was happily accomplished. In the course of some days subsequently, the lady found that she could perceive light with the eye which she considered as lost to her; and after some days she could clearly distinguish objects with it. In this state she remained, or rather than otherwise, gradually improved upon it for eighteen months, when she conceived of her tenth child. About the fifth month of her

* Capuron, Mal. des Femmes, p. 447.

† Gardien, Traitè des Accouch. vol. ii. p. 76.

pregnancy, as on the former occasion, she was again seized with similar pains, although much more intensely severe, of the same eye. They were, moreover, accompanied by a frontal cephalalgia, which assumed a periodical character, commencing every day at 5 P.M., and terminating about 7 or 8 P.M. by a profuse perspiration. There was an aggravation of the symptoms every other day. It was stated by the patient that the left eye had been gradually getting weaker, and that she saw with it only sufficient to guide herself in walking, for some time before it began to suffer much pain; that she had used blisters, applied to the nape of the neck and behind the ears, which she could not support, on account of their frequently exciting faintings, by the irritation which attended them, which also equally resulted from the use of ardent spirits. On examining the vision of this lady, it was very perceptible that the pupil of the *right* eye was more dilated than that of the left; that, moreover, it had no mobility, and that the eye itself was totally insensible to the contact of the finger; that the pupil of the *left* eye had already lost its natural form, and that its movements likewise were less perfect than natural. The head-aches already spoken of returned every evening, and terminated in profuse perspiration. The pulse during these paroxysms, instead of being rendered stronger and more accelerated, became actually slower and more concentrated. The patient was at this time in the sixth month of her pregnancy. The case, therefore, required that the plan of treatment should be such as might consist with the well-being of the fœtus. Accordingly, emetics, by reason of their tendency to induce abortion, were rejected. The medical attendant thought it more advisable to depend upon local depletion, by means of leeches applied to the eyelids and to the temples, and upon fumigations of gum-benzoin to the eyes, and a seton to the nape of the neck. The smoke was received into a funnel, and by it conducted to the eye which was to be submitted to its action. After a month of this treatment it recovered pretty fully its functions, but the *right* eye gave no indications of its possessing any sensibility whatever to the rays of light. It, however, yet remained very uncertain whether, after delivery, (as had taken place after the preceding pregnancy), it might not be in some degree restored. This hope was disappointed. The labor proved a natural one, but the *right* eye retained its then state of insensibility."*

There is seldom any pain accompanying these illusions, nor any increased vascularity of the eye, except in those cases which arise from congestion, and they will be easily distinguished from that very circumstance.

546. The EARS may be variously affected; the sense of hearing

* Communicated by Dr. Bezard, Leroux, Journ. de Med. vol. iii. p. 221.

may be more obtuse than usual (*dysæcia*); or it may be impaired in one ear, whilst it is preserved intact in the other. On the other hand, it may be so acute as to be painful. Again, the patient may be disturbed by an incessant tingling, or buzzing, or singing in her ears. Lastly, she may lose the sense of hearing altogether.

Dr. Davis has seen two cases of entire deafness during gestation. "In one case, the abolition of the sense of hearing came on suddenly during one of the early months of gestation, and very gradually returned after delivery; whilst in the other it came on by imperceptible degrees in the seventh and eighth months of pregnancy, and it returned suddenly and with painful acuteness on the sixth day after delivery, when the lochia entirely ceased to flow."*

Imbert† mentions the case of a deaf woman who recovered her hearing during pregnancy.

These nervous affections are generally temporary, when they occur at an early period of pregnancy; but, at a later period, are more apt to be permanent, and to continue even after delivery. They are seldom of any consequence, and even when they are so, it is only as evidences of more serious cerebral disease.

547. *Diagnosis.*—The only important point of diagnosis, is to distinguish between a purely nervous affection, and one originating in congestion or organic disease: and this may generally be done by a careful examination of the organ itself. The concurrence of those disorders with pregnancy will also aid us. The imperfection of vision and of hearing which occurs at the commencement of fainting must not be confounded with the nervous affections of which I am speaking.

548. *Treatment.*—If these disorders be purely nervous, very little treatment will be necessary. A small blister may be applied behind the ears, or to the temples, and repeated after an interval. Tonic medicines, in combination with antispasmodics, are frequently beneficial. The stomach and bowels must be carefully regulated, as when they are disordered, the nervous distress will be increased.

If there be any evidence of congestion, it will be necessary to take away blood, either from the arm or by leeching, and to give one or two brisk purgatives instead of the treatment first recommended.

In many cases, however, we may expect that our remedies will fail, or afford but slight and temporary relief; with such cases we must only wait for the effects of time or delivery.

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* Obstetric Medicine, vol. ii. p. 899.

† Mal. des Femmes, vol. i. p. 441.

DISORDERS OF THE MAMMARY SYSTEM.

CHAPTER I.

PAIN IN THE BREASTS.—MASTODYNIA.

549. FROM the intimate sympathy between the uterus and mammæ, the latter change their condition at a very early period of gestation; sometimes, indeed, immediately after conception. In ordinary cases, about the second month, the patient's attention is directed to the breasts, in consequence of a sensation of prickling, tingling, or shooting pain in them, accompanied with increase in size, and a degree of soreness of the nipples. If the breast be grasped, it will be found to have lost its peculiar softness, and to have acquired a firm glandular consistence; the gland increases as pregnancy advances, until it seems to constitute the entire substance of the breast, the fatty tissue having nearly or altogether disappeared. This disappearance of the softer tissue is often very remarkable. Imbert speaks of a patient of his, whose breasts—large before conception—always decreased during pregnancy, in consequence of it.*

In the majority of cases, these changes take place without causing any great distress; but in some, the suffering is considerable.

This may partly arise from the fibrous envelope of the mammary gland being unusually firm, and partly from peculiarity of constitution. I have observed it in females who have previously suffered from disease of this organ.

The pain may be either neuralgic, or the result of undue distension, whether the latter arise from the rapid increase in the gland, or from congestion or inflammation.

* Mal. des Femmes, vol. i. p. 347.

Females of a nervous temperament are the subjects of the first, and those of a full habit, of the second kind of attack.

"In the first place, the nervous or irritable female, as soon as she has conceived, experiences certain sensations in the breasts; sometimes a kind of itching or tinging, with more or less swelling in these organs; at others, a feeling of spasm or constriction, extending towards the axillæ. But in proportion as pregnancy advances, the breasts become more voluminous and hard. Occasionally the patient complains of prickings, tension, or intolerable pain. Secondly, the female of plethoric or sanguine constitution is liable to the same affections, but in a higher degree; we have seen in such, mammary pain so acute as to cause agitation, sleeplessness, fever, and delirium. Some have had 'engorgement,' or abscess of the breast."*

550. *Symptoms.*—The patient complains of a pricking, or of acute pain in one or both breasts, varying in intensity. In most cases it excites no constitutional sympathy; the patient is cool, and the pulse quiet, though the excess of pain may cause sleeplessness and loss of appetite. But in others the pulse becomes quick, the skin hot, with feverishness, and even delirium, when the agony is great. The pain may be constant, or recur in paroxysms, and even periodically.

"Murat has given the case of a lady, in whom these pains in the breast re-appeared every month, lasting two or three days, at which time she was tormented with pains in the back, threatening abortion, and requiring rest in bed."†

When the pain is purely nervous, it may continue a longer or shorter time, (the nearer the commencement of gestation, the shorter its duration), and then cease, without any consequences; but when it occurs in plethoric females, as the result of congestion, it is not unlikely to terminate in abscess.

In some cases, towards the end of pregnancy there is a considerable secretion of milky fluid; but this is arrested when the attack assumes an inflammatory character.

551. *Diagnosis.*—1. *From mammary pain, the result of suppressed menstruation.* At an early period it may be impossible to establish this distinction: but after some time, the development of the other signs of pregnancy will decide the question.‡

* Capuron, Mal. des Femmes, p. 444.

† Imbert, Mal. des Femmes, vol. i. p. 346.

‡ "The physician who is consulted will need to pay great attention. He should first examine whether she be really pregnant, or whether the distress may not arise from a suppression of menstruation; then, whether she be of a nervous or sanguine temperament; and lastly, whether she be in the habit of using tight stays, or any article of dress which may compress the breasts."—*Capuron, Mal. des Femmes*, p. 144.

2. *From phlegmon of the breast.* The nervous pain will be distinguished by the absence of local heat, tenderness, and fever.

552. *Treatment.*—Fomentations, or frictions with an anodyne liniment, will frequently afford relief; or a poultice may be applied.

Small doses of some narcotic may be given throughout the day, and a full dose at bed-time, if the patient do not rest well.

If there be much tension and enlargement, it will be advisable to apply leeches, or to take blood from the arm.

In these cases, small nauseating doses of tartar emetic will be found useful.

Should the congestion run on to the formation of abscess, leeches in the first instance, and subsequently emollient poultices, will be necessary; and when matter has formed, the abscess must be opened.

SECTION III.—DISORDERS ARISING FROM MECHANICAL PRESSURE OR DISTENSION.

CHAPTER I.

HERNIA.

553. As the uterus increases in size, it gradually but forcibly distends the abdominal parietes. In most cases they yield steadily and equably, so as to avoid all injury; but in other cases there is more resistance, and then some particular part will be over-distended, or it may actually give way.

Thus we find occasionally, that the recti muscles are so far separated as to give the abdomen a sacculated appearance, interfering to a certain extent with their power during labor, and giving the abdomen an irregular appearance subsequent to delivery.

In other cases, some of the fibres of these muscles may give way, and allow of the protrusion of the submuscular tissue, with a portion of intestine. After delivery, this will give rise to a tumor of varying size.

Again, the linea alba may give way from over-distension, and allow a protrusion of intestine, or of the uterus, constituting what the French call an "eventration." The tumor formed is flat and very painful.

Dr. Burns observes: "I have seen the linea alba give way, just below the umbilicus, so as to allow a portion of the uterus to project, forming thus a painful tumor of a flattened form, and too tender to admit of pressure. Leeches relieved the pain, probably by their effect on the cellular substance; and when the child was born, the tumor disappeared."*

Midwifery, p. 277.

If the separation of the linea alba be low down, the bladder may protrude.*

Even if the resistance of the abdominal parietes be less, so that no separation of the parts take place, yet the natural openings, the umbilical, inguinal, and crural rings, may be much enlarged, facilitating the escape of a portion of the intestine; and if we add the pressure exercised by the uterus upon the intestines, we shall at least have a sufficient explanation of the frequency of umbilical hernia.

M. Imbert remarks: "I have already said that herniæ are frequent during pregnancy. The tension of the abdominal parietes separates the linea alba, and leaves between the recti muscles a space which is occupied but by the peritoneum and skin. Nothing is more frequent than umbilical hernia. Inguinal and crural hernia are less frequent, though not very rare. It is ordinarily the bladder which projects underneath the skin." And again, "I have already spoken of a lady, apparently quite healthy, of a sanguine and bilious temperament, with black hair, dark skin, good muscular development, who experienced in her first confinement considerable relaxation of the abdominal parietes, an anteversion, a separation of the linea alba, forming a true eventration—two inguinal and two crural herniæ."

With some persons, this species of hernia occurs with every pregnancy, but at no other time: and when this is the case, they are very easily reduced.

The progressive enlargement of the gravid uterus will sometimes relieve a hernia which existed previous to pregnancy, by pushing before it the intestines; but this can only be the case when the hernia is recent. When it is old, and has formed adhesions, so far from relieving it, pregnancy is very likely to cause strangulation and very serious consequences; as in the case related by Puzos, which proved fatal, and in which, after death, a small portion of the right ilium was strangulated.†

554. *Causes.*—No doubt the facility with which herniæ are formed during pregnancy is attributable to the irregular yielding of the

* Gardien, Traité des Accouch. vol. ii. p. 102.

"The author has known several persons who were always the subjects of hernia during pregnancy, but at no other time. The protruded intestine in such cases is usually reduced with considerable facility."—*Davis, Obstetric Medicine*, vol. ii. p. 879.

"In general, the herniæ which complicate pregnancy are not serious, if they are easily restored. But it is not so when they are ancient, adherent, irreducible, or disposed to strangulation. Such cases require great precaution, and sometimes prompt assistance."—*Capuron, Mal. des Femmes*, p. 405.

† Traité des Accouch. p. 81.

abdominal parietes, or to their laxity, and to the enlarged uterus protruding the intestines.

Mauriceau has pointed out the influence of tight stays, which limit the abdominal cavity, by causing the contents of the chest to press down the liver and diaphragm.

555. *Diagnosis.*—In all cases of obstinate constipation and vomiting, it will be absolutely necessary to examine the abdomen, and the inguinal and crural regions most carefully; and this manual examination will generally detect any protrusion of intestine. From any other tumor it will be distinguished by its softness, varying size, reducibility, increase upon coughing, &c.

556. *Treatment.*—Irregular separation of any part of the abdominal parietes will be relieved (as far as relief is possible) by a bandage round the body, but which must be so managed as not to include between the separated parts, thus brought together, any portion of the intestine or bladder.

When hernia takes place, it should be reduced, if possible immediately, and its return prevented by a bandage.

If it be not reducible, we are recommended to apply a bandage; but in doing so, we must take care not to cause, or aid in producing, strangulation.

Should strangulation of the intestine take place, we must have recourse to the usual means, and, if necessary, to the operation for strangulated hernia.* If, however, the patient should be in actual

* "Mrs. Clamp was delivered of a male child on the morning of the 20th of December. The author was sent for on the 21st, and found her suffering from a strangulated umbilical hernia. The operation was performed by Mr. Travers, about 24 hours after the protrusion: the gut was dark colored, apparently from venous congestion. The bowels were with difficulty affected after the operation, and the patient suffered much from pain in the abdomen. These symptoms yielded to bleeding and purging, and she appeared to be going on well. On the 26th the wound was dressed; some pus was discharged, and the omentum appeared sloughy. On the 28th the discharge was very offensive, and the sloughing of the omentum was considerable. On the 29th, a large quantity of feculent matter came away through the wound. A compress of lint, wetted with a solution of sulphate of zinc, was applied, and a large piece of sponge over it, to absorb the discharge, and pressure was made with adhesive plaster. The following day she passed two motions 'per anum,' and very little feculent matter came through the wound. The sloughy omentum was cut away. Nothing material occurred until Jan. 6th, when sickness and constipation took place, and everything she took passed through the wound. By the 8th, the constipation and sickness were removed, and from this time she continued to improve. On the 17th of February

labor, it may be advisable to hasten the delivery, in order to save the child, and afford a better chance to the mother.

Care must be taken during labour to prevent, as far as possible, the further protrusion of the gut: and afterwards, the patient must wear a truss or bandage.

CHAPTER II.

HEMORRHOIDS, OR PILES.

557. The term hemorrhoids is used to characterize a number of small vascular tumors, which are formed at the termination of the larger intestine.*

When situated within the margin of the anus, they are called 'internal piles;' and when without, 'external piles.' Again, when there is no discharge from them, they are called 'blind piles,' ("*hemorrhöides non-fluentes*"); and when the contrary is the case, 'open or bleeding piles,' ("*hemorrhoides fluentes*") If accompanied with excoriation, ulcers, &c. they are termed 'complicated piles.'

They are a source of great suffering to females during pregnancy, and occur very frequently, if not during the first pregnancy, yet in subsequent ones.

Women of a delicate, indolent, or lymphatic habit are very liable to them, especially if the bowels be constipated.

558. *Causes.*--As to the proximate cause of piles, there is great

the wound was completely closed, and the natural passage restored."—*Case by Mr. Gore, Med. Chir. Trans.* vol. xii. p. 570.

* "They consist in small, painful, well-defined tumors, of a pale or sometimes purple color, which are situated around the verge of the anus. Sometimes the whole of the perineum is invested by one large cluster of them; at other times, they neither appear on the anus nor perineum, but exist within the rectum. They have been divided into external or internal, according as they are developed without or within the rectum; into open or blind, according as they furnish a discharge or not; and into simple or complicated, according as they may be accompanied by various excoriations or ulcers. This is generally a complaint of the latter months; but when the bowels are neglected, it may also occur in the early stages of pregnancy, more especially in the fourth month."—*Campbell's Midwifery*, p. 514.

difference of opinion,* some considering them to be varicose veins; others, dilated arteries; a third class, both the one and the other;† and a fourth, neither the one nor the other. The French authorities regard them as spongy tumors, developed during pregnancy or otherwise, from constitutional causes.‡

Among the most evident exciting causes is the pressure of the enlarged uterus, either when it completely fills the pelvis, or at a much later period; as we find that the time when they are most apt to occur is during the fourth or two latter months.§

Dr. Burns attributes piles chiefly to "a sluggish state of the intestinal canal, communicating a similar torpor to the hemorrhoidal veins," and certainly, when there is a large accumulation of fæcal matter, hemorrhoids are more frequent and severe. Drastic purgatives are also accused of causing the disease. It is probable that the unusual amount of blood distributed to the pelvic contents may favor the formation of these tumors, aided by the looseness of the texture in which the vessels of the rectum are imbedded.

559. *Symptoms.*—The patient at first experiences an unpleasant sensation of weight and itching at the anus; and an examination dis-

* "Some writers express their belief that the blood discharged from them comes neither from arteries nor from veins, but from the intermediate capillary vessels (*Montegre*). Laennec and Abernethy espouse the doctrine that piles are the result of the formation of new vessels. Duncan, Le Dran, Recamier, and Delaroque represent them as composed of cysts, in which the arterial blood is effused. Lastly, Stahl, Alberti, Vesalius, Morgagni, J. L. Petit, and Pinel regard them as dilated veins, true *varices*; and such was the opinion of Dupuytren."—*Cooper, Surg. Dict., Art. Piles.*

Sir B. Brodie, Carswell, and Andral agree with the latter opinion. M. Ribes considers them to be formed of cells filled with blood.

† "The nature of piles is not yet settled. Some allege a hæmorrhoid to be a dilated vein; others a dilated artery; and trusting to the evidence of my own senses, I think not only that each of these opinions is correct, but that the extremities of both the veins and arteries of the part affected may be in a state of dilatation at the same time; that of the veins, however, consequent upon that of the arteries."—*Campbell's Midwifery*, p. 514.

‡ "Anatomical examination establishes more surely the distinction (between varicose veins and piles). On dissection, no inorganic clot is found, but the cellular tissue is infiltrated and reddened with blood, as Cullen and Bosquillon have stated. Dissection proves that there is no dilatation of the veins." "Ledran justly regards them as spongy tumors, whose extirpation is never followed by hemorrhage, as in the case of varicose veins."—*Gardien, Traité d'Accouch.* vol. ii. p. 95.

§ Midwifery, p. 157. Davis' Obstetric Medicine, vol. i. p. 874.

covers these tumors around its margin, if they be external piles. If internal, they will only be detected by their descent when the bowels are evacuated, or by an internal examination.

Much greater distress is caused when the piles become congested or inflamed, whether they be external or internal. The patient suffers great pain and throbbing in the part, with a sense of weight and bearing down; the pulse may become quickened, the face flushed, the skin hot, &c. There is head-ache, thirst, and a dry tongue, &c. The pain is greatly aggravated by sitting or walking, and is almost intolerable when the bowels are moved. Tenesmus is generally present, and a glairy or whitish fluid is discharged. In many cases there is a greater or less discharge of blood, which affords some relief.*

The excessive irritation may cause spasmodic contraction of the sphincter, and even of the rectum, adding greatly to the distress.†

If the piles be internal, they will be forced down during the efforts at stool, and should they not be carefully returned, they will be caught by the sphincter, retained and strangulated. This state is one of extreme anguish, and if not relieved, gangrene of the tumor may ensue, and even the death of the patient.

If the inflammation be not subdued, the tumors may ulcerate, and prove extremely troublesome, on account of the irritation and loss of blood.

The severity of the attack may be subdued, but the disease is rarely curable during pregnancy, and even after delivery it is very apt to recur.‡

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* "If the piles are internal, they cause a sense of weight at the rectum, and a frequent desire to go to stool, with tenesmus and fruitless efforts, expulsion of glairy, whitish, and sometimes sanguinolent fluid; from this cause also proceed prolapse of the anus, and strangulation of the gut, if not returned in time; inflammation, suppuration, ulceration, and even gangrene of the excluded piles; in a word, the death of the female, if the inflammation be propagated to the abdomen." "Add to these the difficulty of sitting down and walking, swelling of the inferior extremities, flatulence of the intestines, indigestion, dyspnœa, heat in the palms of the hands and soles of the feet, lassitude and uneasiness, insomnia, head-ache, and fever, and we shall have completed the picture of the torture which piles may cause during pregnancy."—*Capuron, Mal. des Femmes*, p. 422.

† "There is sometimes a spasmodic contraction of the rectum, accompanied with acute pain. These spasms so contract the sphincter in certain cases, that it is impossible to administer enemata, and they are so painful that the patient is deprived of sleep. The consequence may be abortion."—*Gardien, Traite d'Accouch.* vol. ii. p. 97.

‡ "When piles are produced by the pressure of the gravid uterus, no cure can be expected till after delivery, one generally then follow-

When the disease becomes chronic, the patient is very liable to derangements of the stomach and bowels.

The consequences of a very severe attack are, however, sometimes much more serious; the ulceration may persist in spite of treatment, or become fistulous or cancerous. The loss of blood may be sufficient to exhaust the patient, and to destroy the fœtus, or abortion may be caused by the violent straining.*

These attacks, I have said, are most frequent about the middle and end of pregnancy, but they may occur at any period. Some women are attacked with them immediately after delivery, owing probably to the pressure exercised during labor.

In some cases they recur periodically, as though vicarious of the menses.

560. *Treatment.*—Whether the piles be external or internal, the first thing to be done is to free the bowels effectually, by some mild medicine, after which an anodyne enema may be given, and leeches applied to the piles, or around the anus.† This will relieve the throbbing pain, and procure some hours rest for the patient. The leeches may be repeated if necessary; and to encourage the bleeding, the patient may sit over hot water.

Injections of warm water or gruel may be used subsequently.

The diet must be bland, and all stimulants avoided. If the fever be considerable, it may be necessary to abstract blood from the arm.

ing spontaneously. Women, however, who have borne many children are liable to piles ever afterwards—the veins, which have been repeatedly kept in a state of dilatation, not returning afterwards to their proper size."—*Cooper's Surg. Dict., Art. Piles.*

* "The consequences of piles are serious in proportion to their duration, their volume, and their complications. They have been known to degenerate into incurable fistulous or cancerous ulcers. The tenesmus, and the violent fruitless efforts to evacuate the rectum, may also cause abortion. In general they do not interfere with pregnancy when they discharge blood, provided it be not in great quantity; otherwise they may exhaust the female, and cause the death of the infant."—*Capuron, Mal. des Femmes*, p, 424.

† "Hemorrhoids are occasionally requiring treatment; and gentle aperients, or some of the *preparations of sulphur*, are productive of good. If they are very numerous, and much tumified, *leeches* may be employed; but pressure on each individual pile, till its cavity be emptied of the blood it contains, will impart much relief. *A pint of the decoction of poppies*, with a *drachm of the liquor plumbi superacet.* is very useful as a warm fomentation, to allay irritation after a difficult and confined motion. The injection of a few ounces of warm olive oil into the rectum *once or twice* a day, has often relieved the pain and heat about the anus."—*Ashwell on Parturition*, p. 197.

When the piles are external, great relief is sometimes afforded by warm anodyne lotions; or by the ung. plumbi.

If the internal piles have been forced down and strangulated, we must return them immediately, and then have recourse to laxatives and leeches; if it be impossible to reduce them, on account of the contraction of the sphincter, the tumors must be scarified to prevent gangrene.

Preparations of sulphur, alone or in combination with cream of tartar,* or electuary of senna, are found very useful.

When the inflammation has subsided, we may have recourse to astringent applications with benefit, such as the ung. gallæ, decoction of oak bark, green tea, &c.

The balsams have also been highly recommended; and recently pix nigra (in five grain doses) has been stated to have been successfully used, after other remedies had failed.

Should the bleeding be excessive, it may be restrained by pressure; this is easily done when the piles are external; but when internal, we must have recourse to the "*tampon*" of Petit, or some similar contrivance.

Some writers recommend that the inflamed pile (when external) should be opened;† others deprecate this operation very strongly. There will undoubtedly be danger of inflammation, which may interfere with the progress of gestation.

When the piles become chronic, they may be removed by ligature or the knife; but it will scarcely be advisable to attempt this until after delivery.‡

* ℞. Sulphur: præcipit: ʒvi.
Potas: supertart: ʒii.
Confect: Rosæ Caninæ ℥i.
Syr: Tolutani q: s: ut ft. Electuar. de quo sumatur quantitas nucis moschatæ bis vel ter quotidie."—*Waller's Note in Denman's Midwifery*, p. 158.

† "A very successful, though painful practice, in those piles which appear after delivery, is that of laying them open, and afterwards applying a large warm poultice, by which means they disappear in two or three days. When piles become indolent and insensible to local applications, we have been advised to get rid of them, either by ligature or the knife; and the latter, as it is productive of less irritation, should be preferred: we must be prepared, however, against hemorrhage. Neither operation should, if possible, be performed in the gravid state, lest premature uterine action result."—*Campbell's Midwifery*, p. 516.

‡ For full information on this point, see Cooper's Surgical Dict., Art. Piles.

CHAPTER III.

SPASM OF THE URETERS. INCONTINENCE OF URINE.

561. I. SPASM OF THE URETERS.—Pregnant females are occasionally subject to accessions of severe pain in the course of the ureters, leading up to the kidney; and this Dr. Burns attributes to spasm of the ureters.

It is probable that it arises from pressure upon these canals, as they pass into the pelvis. The same effect may possibly arise sometimes from a dyspeptic state of the stomach.

The attack is purely local, consisting of severe and sometimes intermitting pain, with distressing strangury, which may cause abortion if not relieved.

562. *Treatment.*—The bowels should be well freed by purgatives or enemata, and afterwards a large opiate administered.

Counter-irritation to the loins may occasionally afford relief. The state of the stomach must be attended to, and the diet regulated. Change of position will sometimes relieve the pain by removing the pressure.

563. II. INCONTINENCE OF URINE.—This very distressing complaint may occur at any period of pregnancy, though from different causes.

During the early months it generally arises from a morbid irritability of the neck of the bladder, or of the entire organ, in consequence of its sympathy with the uterus.

The patient is tormented with a constant and painful desire to make water; and if this desire be not instantly gratified, it is discharged involuntarily.

The irritation is sometimes extended to the vulva, and is greatly aggravated by the passage of the urine; the patient suffers intensely, especially in the night, from scalding, itching, and pain of the external parts.

"This state of the bladder is sometimes productive of a slight irritation about the symphysis of the pubis, rendering the articulation less firm, and more easily separated. In such circumstances, when the pubis is tender, bloodletting and rest are the two principal remedies."*

It may also arise from pressure of the uterus upon the neck of the bladder, giving rise to a partial and temporary paralysis of it.†

* Burns' Midwifery, p. 261.

† "Incontinence of urine is caused by an atony of the neck of the

At a later period the incontinence is owing to the pressure of the gravid uterus on the fundus and body of the bladder, diminishing its capacity, and rendering the evacuation, voluntary or involuntary, of its contents, frequent.*

This pressure, however, appears to have the further effect of inducing a kind of paralysis, so that it may be some time after delivery before its functions are perfectly restored.

The incontinence is much increased if the patient suffer at the same time from cough: with each succussion the urine escapes.

It is hardly necessary to state that the condition of the patient is very distressing; the constant discharge of urine excoriates, more or less, the vulva and upper part of the thighs, and the patient cannot move without pain. The urinous odour is also extremely offensive.

564. *Treatment.*—During the early months, our aim must be to soothe the irritation. If this be great, venæsection or leeches to the lower part of the abdomen may be necessary.† In many cases, warm fomentations will be all the local treatment required.

Moderate doses of hyosciamus or opium, with copious mucilaginous drinks, will be found useful. The bowels should be kept free.

When it arises from "atony of the neck of the bladder," Capuron advises "tonic and astringent injections, such as the mineral waters of Barèges, Balaruc, Cauterets, &c., or a solution of sulphate of alum."

bladder, which has been squeezed—so to speak—during the early months of pregnancy; or by compression of the fundus by the uterus, at a more advanced period."—*Capuron, Mal. des Femmes*, p. 403.

"When the pressure in question has been of long continuance, it (the incontinence) may be presumed to depend on paralysis of the sphincter vesicæ."—*Campbell's Midwifery*, p. 528.

* "Towards the end of pregnancy, women are often troubled with a complaint which is the reverse of the former, namely, an incontinence, or involuntary discharge of the urine. This is most frequent with those who have naturally prominent bellies, and is owing to the too great pressure of the uterus on the body of the bladder."—*Manning, Diseases of Females*, p. 317.

"Incontinence of urine is caused by the pressure of the uterus upon the fundus of the bladder against the symphysis, obliging the patient to pass urine every moment, because of the diminished diameter of the bladder."—*Gardien, Traitè des Accouch.* vol. ii. p. 81.

† "Early in gestation, and indeed at any period of a *first* pregnancy, venæsection, by producing general relaxation, and thereby partially relieving the bladder, must prove beneficial. Doses of the tincture, or of the extract of hyosciamus, or of the sedative solution of opium, must at the same time be given, and the use of liquids limited."—*Campbell's Midwifery*, p. 528.

At a later period, when the complaint arises from pressure, we can do but little. Cold local sponging will in some cases strengthen the retentive powers of the bladder.

The patient in all cases should anticipate the involuntary discharge of urine, by its frequent evacuation.

In order to prevent the distressing excoriation of the vulva, the patient should wear a napkin constantly, and change it frequently.

When excoriation does occur, it may be relieved by warm mucilaginous or gelatinous fomentations, twice or thrice a day, and by the subsequent application of lead lotion, black wash, or absorbent powder.

Gentle aperient medicines or glysters should be occasionally exhibited.

CHAPTER IV.

DYSURIA. RETENTION OF URINE.

565. An opposite condition of the bladder to that just described is not unfrequently observed in pregnant women. The degree may vary; it may only amount to a difficulty in voiding urine, or it may be impossible to evacuate the bladder. It may occur either during the early or later months of pregnancy.

566. *Causes.*—At an early period it may be owing to irritation of the neck of the bladder, giving rise to spasmodic constriction, or it may be owing to pressure upon the neck of the bladder, when the uterus fills the cavity of the pelvis.*

At a later period, it may result from pressure of the lower part of the uterus on the neck of the bladder, particularly if the belly be pendulous; and it has been regarded as a proof that the presentation is natural.†

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* "Strangury generally occurs in early gestation, and may arise from a variety of causes—as the pressure of the uterus upon the neck of the bladder; spasm of the sphincter vesicæ; from the irritation of piles; diarrhœa and torpor of the bowels. Sometimes it results from calculus, or excrescences in the urethra; and occasionally from the absorption of cantharides."—*Campbell's Midwifery*, p. 528.

† "It is some comfort to women to be informed, that I believe the observation is almost universally true, that affections of this kind are

It may also result from paralysis of the bladder from pressure, or from over-distension in consequence of the diminished sensibility of the bladder. An attack of hemorrhoids, a calculus in the bladder, or a tumor of the urethra may also give rise to dysuria, or retention of urine.

Displacements of the uterus are all attended, more or less, with disturbance of the functions of this organ.

567. *Symptoms.*—It is scarcely necessary to describe the symptoms. The patient finds the evacuation of the bladder difficult and painful, or altogether impossible. In the latter case, the bladder becomes distended, and presses backwards the womb, which may become retroverted in the early months, if the patient make violent efforts to empty the bladder, or suddenly exert her strength in any way.

If relief be not afforded, the pain and tension of the bladder increases to agony, the abdomen becomes tender, and ultimately the parietes of the bladder may give way, and peritonitis result.

Should retention occur at the commencement of labor, or be continued up to that period, the consequences may be very serious. The bladder may be forced down into the cavity of the pelvis by the descent of the child's head; and if it be not ruptured—which is very likely—it will receive such a serious compression and contusion, as will excite inflammation, sloughing, and perforation subsequently.

I have met with more than one such case, in dispensary practice, from the carelessness of midwives.

568. *Diagnosis.*—It is of the greatest importance, when retention occurs in the early months, that a vaginal examination should be made immediately, in order that any displacement of the uterus may be detected, and remedied as soon as possible.

We may also in this manner detect the presence of calculus in the bladder, or urethral tumors; and so distinguish retention depending upon organic derangement, from functional incapacity.

569. *Treatment.*—Dysuria or strangury, arising from irritation, may require bleeding or leeches, and will be benefited by anodynes, mucilaginous drinks, and warm fomentations. If there be piles, leeches must be applied to them.

Retention arising from diminished sensibility and over-distension requires but little medicine. The patient should regularly void urine at short intervals, and apply cold to the vulva, morning and evening. Soda and uva ursi have been recommended.

If it depend upon compression, little can be done beyond changing the position, so as to avoid pressure anteriorly as much as possible.

never produced, except in those cases in which the presentation of the child is natural."—*Denman's Midwifery*, p. 160.

Whatever be the cause, if the retention be complete, the catheter must be used, and repeated as frequently as may be necessary.

If the belly be pendulous, a bandage may be applied, so as to raise the uterus, and so diminish the pressure upon the neck of the bladder.

CHAPTER V.

CRAMPS, IRREGULAR PAINS, &c.

570. CRAMPS, spasms, or irregular pains in different parts of the lower half of the body, are a source of frequent and great annoyance to pregnant females. It does not appear that temperament has any thing to say to their production. They are more frequent about the fourth or fifth month, and at the latter end of gestation, than at any other time.

571. *Causes.*—These pains have generally a mechanical origin, and depend upon the pressure of the gravid uterus upon the nerves, and thus we see why they should be most frequent about the fourth month, when the uterus fills the cavity of the pelvis; or during the ninth, when it is incumbent upon the brim.*

In some cases they are attributable to the distension of muscular fibres by the enlarged uterus, or to the stretching of the ligaments of

* "Spasms of the lower extremities have their origin in the same general condition of the nervous system, to which several affections have already been referred. In most cases they commence in the course of the anterior crural nerve, whence they are suddenly transferred into the calf of one or both legs, and thence into the sole of either foot, to the great annoyance of the patient. The pressure of the uterus upon the brim of the pelvis, torpor of the bowels, over fatigue, and mental irritation, are the most obvious exciting causes. Spasmodic affections are not confined to the sacral extremities. From the time the uterus has ascended over the brim, those sensations may be alternately situated in the hollow between the false ribs and crest of the ilium, in the *venter* ilii, and along the brim towards either crural notch: when the womb is in the pelvis, even between the third and fourth month, frequently a cutting or tearing sensation is complained of in the tract of the obturative nerve."—*Campbell's Midwifery*, p. 504.

the uterus; and this is said to be the case especially with women who carry twins.

No doubt they may be excited or increased by deranged digestion, constipation, over-fatigue, mental irritation, &c.

572. *Symptoms.*—There are various situations in which the cramp or pain is felt, and the effects vary accordingly.

1. *In the abdomen.* The patient may complain of pain or stitches in one side or the other—generally the left, between the false ribs and the crest of the ilium, or along the line of the superior insertion of the abdominal muscles. Again, the inferior insertions may be similarly affected; in both cases it appears to be owing to over-distension, which throws some of the muscular fibres into spasmodic action.* The pain may be very severe, effectually preventing the patient's taking exercise. It is influenced by the state of the stomach, more than cramp in any other situation, and is often combined with heart-burn or water-brash; but is easily distinguished from pain in an internal organ, by its spasmodic character.

I have seen this kind of cramp fix itself about the symphysis pubis, and extend down to the labia pudendi, probably depending upon pressure, congestion, or dragging of the round ligament.

2. *In the back.* The lumbar muscles are sometimes the seat of cramp; and when it is severe, it greatly impedes the movements of the patient, especially the assumption of the upright position.

Occasionally the distress is extended from the crest of the ilium to the sacrum, affecting the origin of the muscles. It may be the result of distension, or of pressure on the nerves.

In some few cases, I have known the pain limited to the lower part of the sacrum, and to the coccygeal region.

3. *In the inferior extremities.* It is seldom that both legs are affected together, and it generally happens that the pressure is greatest on the leg of that side on which the patient habitually inclines.

The pain may be seated on the anterior and inner side of the thigh, taking the course of the crural nerve; or it may run along the sciatic nerve, down to the calf of the leg, and even to the heel and sole of the foot.

I have recently had under my care a patient, who in the ninth

* "By the extreme distension of the muscles of the abdomen, these are often the seat of pain during pregnancy, especially at their insertions; and it requires some attention to distinguish this from the pain which may arise from affections of the symphysis of the ossa pubis. When the weight of the abdomen in pregnant woman is very great, and weakly supported by the integuments, it becomes pendulous, and occasions to the patient much pain and difficulty in walking, and many other inconveniences at the time of labor."—*Denman's Midwifery*, p. 167.

month of pregnancy was attacked by acute pain along the ball of each foot. She could neither stand nor walk from the pain, nor even bear to have the feet depending, and yet there was neither swelling, nor redness, nor tenderness when I pressed the foot. The attack lasted about a fortnight. Another patient suffered from severe pain and altered sensibility in the end of the fingers, without swelling, or pain on pressure.

These cramps may depend upon the pressure of the enlarging uterus, whilst it fills the cavity of the pelvis; or upon its downward pressure during the latter months. When the pelvis is sufficiently capacious to allow the head of the fœtus (covered by the cervix uteri) to descend into the pelvis, the pressure being great, the pain is unusually severe.

The pains are often very acute, and attended sometimes with muscular contraction.* They generally come on suddenly, and often render the patient's footing very insecure. This is particularly the case when they attack during walking; and in fact they, and not the change in the centre of gravity, are the principal cause of the severe falls which happen to pregnant females.

The attack may occur during the night as well as the day, especially soon after lying down.

We sometimes see a minor degree of this affection when the limb is what is commonly called—asleep: the patient is greatly annoyed by numbness, or a sensation of pricking, as of pins or needles; and this may alternate with the cramp.

* "Tonic contraction of the muscles of the limbs receives the name of cramp, when occurring during pregnancy; it has also (in French) been named *goutte cramp;* it is commonly accompanied with very severe pains. The muscle spontaneously contracts, and remains a longer or shorter period in this morbid state; the cessation of pain is an instantaneous consequence of relaxation. Pregnancy singularly favors the development of this affection, which sometimes attacks the muscles of the arm, of the hands and fingers; sometimes it manifests itself in the posterior muscles of the leg and thigh. M. Gardien attributes this last-mentioned symptom to compression of the sacral nerves, when pregnancy is so far advanced that the head of the fœtus begins to rest upon their origins. (*Traite d'Accouch.* vol. i. p. 260; vol. ii. p. 78.) This may very well explain the occurrence of cramp in the inferior limbs; but when cramp affects the superior extremities, it appears to me to depend essentially on the sympathetic influence of the uterus. These cramps sometimes remain during the whole period of gestation, and are not relieved until after delivery—an evident proof that they are under the influence of that accidental state of the uterus which is induced by pregnancy."—*Bryden's Translation of Miquel*, p. 26.

"No complaint happens more frequently to pregnant women than pain in the hips, with numbness of the inferior extremities. This seems to be occasioned by the outward pressure made by the enlarged uterus upon the ischiatic nerves, and those which pass through the perforations on the anterior part of the sacrum." * * * Cramp "is a very pertinacious symptom, and often exceedingly troublesome, especially in the night, but being void of danger, has too little attention paid to it."*

It is very rare that any form or degree of cramp is accompanied with much constitutional sympathy, unless indeed the patient should be long deprived of rest.

573. *Treatment.*—As this affection depends chiefly upon pressure, over which we have very little or no control, it is evident that the treatment can only be palliative, and must often be unsuccessful.

The condition of the stomach and bowels must be carefully attended to in all cases.

In the cases I have mentioned, I found the greatest benefit from a combination of an alkali with a bitter tonic. I ordered infusion of gentian six oz., tincture of orange-peel two drachms, and two drachms of Brandish's alkaline solution: a tablespoonful to be taken three times a day. The bowels to be kept free.

In very severe cases, blood-letting has been tried, and often with success; but ordinarily it is unnecessary.

An anodyne draught of some kind will be necessary. Locally, we may use some counter-irritation. I have found friction with spirits of turpentine very useful.

Sometimes great benefit will be derived from an opium or belladonna plaster.

But all these remedies will fail, unless we can place the patient at rest in a position which will, in some degree at least, take off the pressure; and if we can do this, very active remedies will be needless.

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* Denman's Midwifery, p. 161.

CHAPTER VI.

VARICOSE VEINS.

574. A dilatation of the veins, with a consequent thickening of their coats, as a consequence of the arrest of the ascending column of blood, is a very frequent accompaniment of pregnancy—though neither a dangerous nor very troublesome one. Women of a lax and plethoric habit appear peculiarly obnoxious to it.

Varicose veins vary as to situation. They are perhaps most frequent on the leg, below the knee; but if the cause be repeated, the veins of the thigh are speedily involved.

More rarely, I have seen the veins of the labia majora, the vagina, and even the os uteri rendered varicose from the same cause.*

575. *Causes.*—There can be no doubt that the principal, if not the sole cause, is the pressure of the gravid uterus during the latter half of gestation.† It is uncommon for the effect to be produced during a first pregnancy, but it is very frequent afterwards, increasing in amount with each pregnancy.‡

The first time varicose veins result from this cause, they do not appear till towards the end of gestation; but when once the veins have acquired a certain degree of dilatation, a very slight increase in

* Gardien, Traitè d'Accouch. vol. ii. p. 92.

† "We can hence easily understand why, and in what class of females, the inferior extremities appear covered with varices, especially in the course of the femoro-popliteal or saphena vein, and most frequently towards the eighth or ninth month of gestation; also why it is we meet them in the vagina, vulva, or cervix uteri; why one side only is affected; and why they diminish during the night, by the rest in bed."—*Capuron, Mal. des Femmes*, p. 417.

‡ "This condition of the veins I never met with to any extent during a first pregnancy; but when it does appear, even in a trivial degree, it gradually increases in severity with every succeeding gestation. Females of a lax, delicate habit of body, are most disposed to it; but it may be developed under a variety of circumstances; and I have had many proofs that such occupations as compel individuals to be much in the erect posture will occasion it. Plethoric females are more liable to varices than those of an opposite habit. Indolence predisposes to it. Relaxation and interruption to the return of the blood, by the common iliac veins, from uterine pressure, are the most obvious causes. This affection is not at all dangerous, except when the coats of the vessels give way."—*Campbell's Midwifery*, p. 513.

the bulk of the uterus suffices to distend them. I had a patient in whom a distended state of the veins of the leg was the first symptom of conception in several pregnancies.

When the womb inclines more to one side of the body than to the other, one limb will be affected, whilst the other retains its natural condition.

A constipated state of the bowels will of course aggravate the disorder, and perhaps may have a share in the production of that form which I have mentioned as seated in the vagina.

Though varicose veins be caused by pregnancy, they are, I need scarcely say, not peculiar to it alone. Ovarian or uterine disease may equally produce them.

576. *Symptoms.*—The symptoms are not remarkable: the patient usually complains of stiffness and heaviness of the limb, with difficulty of walking, but there is seldom any pain. When the veins of the vulva or vagina are affected, there is a fullness, weight, and sense of bearing down. An examination of the limb will at once point out the cause of these symptoms, and on making a vaginal examination, we shall find the passage somewhat narrowed by the swollen, unequal lining membrane. A similar sensation will be communicated to the finger, when the cervix uteri is affected.

It sometimes, though rarely, happens, that when the distension is very great, the coats of the vessels give way, and blood is effused.* This is much more likely to occur with the veins of the cervix uteri during labor; but I do not know that any unpleasant results have followed.

It has been supposed that the sanguineous tumor of the labium, of which I shall speak hereafter, is the result of rupture of these distended veins, and it is quite possible that it may be in some cases; but the fact has not been established, nor can it be very frequent, if we remember how many cases we see of varicose veins of the labia, and without rupture.

After delivery, the veins gradually return to nearly their natural size, unless the patient have had many children in quick succession; in which case the coats of the veins are so hypertrophied, that the disease becomes permanent, at least for many years.

If the patient stand or walk too much, portions of these veins are apt to become inflamed, causing much pain, and proving rather difficult to manage; and I have remarked in several patients who suffered from varicose veins during pregnancy, a great liability to inflammation of a portion of them after delivery.

* There is a fatal case recorded by Dr. Cramer, of a rupture of a vaginal varix in a pregnant woman during sexual intercourse, in the Medicinisch. Zeitung, of March 11, 1840.—*Dublin Journal*, vol. xviii. p. 504.

577. *Treatment.*—As the disease results from a mechanical cause which we cannot remove, it is evident that we cannot hope to cure it until after delivery. All we can do is to support the limb, and diminish the venous distension by firm bandaging, which should be applied in the morning, as then the veins are least distended. Firm pressure will command the hemorrhage in most cases, when a rupture of the veins takes place.

Rest in the recumbent posture will also be needful; and if one limb only be affected, the patient should recline on the opposite side.

The bowels must be carefully regulated.

Various methods have been proposed for the radical cure of the disease; but as none of them ought to be practised during pregnancy, they do not require description here.

CHAPTER VII.

ŒDEMA. ANASARCA.

578. DURING the latter months of gestation we frequently find patients complaining of a swelling of the lower extremities, increasing towards evening, and occasioning a certain amount of inconvenience.

Females of a leucophlegmatic temperament are the most obnoxious to the disorder, although the robust and plethoric do not always escape.

The extent of the effusion varies much; it may be confined to the feet and legs, or it may involve the thighs, vulva, and hips.

In a few cases, the anasarca is still more general, and we find the upper part of the body, the hands, and the face, œdematous.*

579. *Causes.*—In a large class of cases, the œdema is caused by the pressure of the gravid uterus simply, or, according to M. Imbert, with the addition of an affection of the nervous system.†

* "Although the œdema generally affects the inferior extremities only, it may extend over the whole body; at other times it is limited to the vulva, to the feet, or lower part of the leg; or it may ascend the thighs, distend the labia majora, and form a species of ring ('*bourrelet*') around the hips."—*Imbert, Mal. des Femmes*, vol. i. p. 421.

† "We must acknowledge that compression, and obstacles to the blood and lymph, are predisposing causes only; but that for the pro-

In a second class it has been said to depend upon an atonic condition of the constitution.*

In a third class it appears of a more active character, depending perhaps upon plethora, or that affection of the cellular tissue which ends in general effusion. The symptoms of the latter are very different from the former.

The amount of distension in many cases appears to be in proportion to the size of the uterus; thus, in case of twins or triplets, it has frequently been found excessive.

580. *Symptoms.*—When the effusion is passive, or the result of pressure, there are none but mechanical symptoms. The limb is swollen, of a semi-transparent, pearly appearance. It feels heavy, and the patient cannot walk as well as usual. The secretion of urine is generally diminished.

These inconveniences are much aggravated if the swelling extend to the thighs; the patient may not be able to approximate them, and may find it as distressing to sit as to stand or walk.

But little additional distress is occasioned during gestation by the swelling of the labia; but if very large, they may be a serious impediment to the exit of the child.

Change of posture has great effect upon the œdema; in the morning the swelling is but slightly perceptible, but during the day it increases, and towards night the part arrives at the maximum of distension.

After delivery, the effusion disappears immediately, without any unpleasant result.

This is the ordinary course of the disorder; but it may be unpleasantly varied by an attack of erysipelas of the distended skin, or phlegmon of the subcutaneous cellular tissue. The former attack may run the usual course, and subside; or the inflammation may extend to the cellular tissue, and end in abscess. The skin covering the abscess may go through the usual process of absorption to give exit to the matter; or it may become gangrenous.

duction of a serous effusion, a peculiar condition of the constitution is necessary. In fact, the temperament of the patient, the state of her constitution, her mode of life, &c. are not sufficient to produce œdema; we must discern some influence in addition to all these predisposing causes—and that is an affection of the nervous system."—*Imbert, Mal. des Femmes*, vol i. p. 420.

* "The œdema of pregnant women may be of two kinds—one depending upon a state of plethora, the other upon a state of atony. In young plethoric women, œdema is sometimes accompanied with pain, heat, tension, and a slight inflammatory blush upon the skin, in place of the palor which characterises leuco-phlegmasia from atony."—*Gardien, Traité d'Accouch.* vol. ii. p. 90.

When the disease depends upon a dropsical diathesis, it is much more general, affecting the superior as well as the inferior parts of the body, and accompanied with heat, tenderness, and tension of the parts. The pulse is quickened, and there is more or less fever. This is a much more serious form of disease, and should be carefully distinguished from the passive variety. I have already mentioned that this species is frequently followed by convulsions, either before or during labor, and is therefore a cause of great anxiety, and requires prompt treatment: moreover, it does not necessarily disappear after delivery.* It may also be complicated with effusion into the serous cavities, and involve, in consequence, the life of the patient.

581. *Diagnosis.*—There are two points of diagnosis. The first is to ascertain that the effusion arises from, or is connected with pregnancy, and not from disease; and the second is to distinguish between the passive and active forms of œdema. The presence or absence of the signs of pregnancy will solve the first question, and the second will be decided by the presence or absence of constitutional distress.

582. *Prognosis.*—As long as the disease is passive, and not excessive, the prognosis is favorable; but it will be modified if erysipelas or phlegmon occur, according to the extent of this complication.

When the dropsy is general and acute, the prognosis is always grave, and it may be altogether unfavorable if the attack be violent.

583. *Treatment.*—Rest in the recumbent posture will be sufficient for moderate degrees of the œdema from pressure; but if more excessive, we must try mild saline purgatives, with diuretics; though it must be confessed that they often fail.

In cases of extreme distension, where we dread the skin giving way, it will be better to evacuate the fluid by small punctures with the lancet, or a needle, in the leg or foot.†

The fluid must also be evacuated in those cases where the size of

* "The œdema which does not depend upon pregnancy, but upon some constitutional disorder, does not disappear after confinement. In such cases we have seen females become anasarcous and dropsical, and the lochia suppressed. Death is almost inevitable in these cases."—*Capuron, Mal. des Femmes*, p. 430.

† "If the infiltration be so considerable that there is reason to fear that the skin will burst, it will be better to give issue to the fluid by slight punctures ('*legeres mouchetures*') in the feet and legs. If we wish to dissipate serous infiltration of the labia, it will be better to apply a blister between the thighs and labia, than to puncture the parts. In following this suggestion of Levret, we shall avoid the formation of cicatrices, which might become an impediment at the time of delivery."—*Gardien, Traitè d'Accouch.* vol. ii. p. 91.

the labia offers an impediment to the completion of labor; but this is better done by repeated blisters than by punctures.

When erysipelas attacks the œdematous limb, we are recommended to make free incisions into the inflamed part, in addition to the ordinary modes of treatment. If an abscess form, it will undoubtedly be advisable to afford an exit to the matter.

When the dropsy is general, and accompanied by fever, the treatment must be much more active, and of an antiphlogistic character.

Blood should be taken from the arm, and an active purgative administered. Tartar emetic in small doses will also be found useful.

These remedies are to be repeated or modified, according to the violence or continuance of the attack; and in general we shall succeed in subduing it, if we are called sufficiently early.

CHAPTER VIII.

ASCITES. HYDROTHORAX.

584. In some females we find the dropsical diathesis so strongly marked, that the effusion is not confined to the cellular tissue, but occupies one or other of the great cavities of the body.*

These cases are almost always examples of the acute or inflammatory dropsy, excepting when caused by organic disease (as of the heart or liver) preceding or accompanying pregnancy.

The attack seldom occurs till the latter months of gestation.

585. *Symptoms.*—The quick pulse, feverishness, and pain, which I have already described as accompanying acute dropsy, may be present, with an unusual enlargement of the abdomen for the period of pregnancy.† There is very little tenderness of the abdomen; but

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* "But besides this œdema, which is so frequent, and unattended with any danger, there is a dropsical affection which is noticed by others, and which I myself have seen in two cases, where the woman, during pregnancy, has a tendency to a general effusion—water exuding in all the principal parts of the body, the legs, the arms, the peritoneal sac, the chest, the head; the disease sometimes predominating in one part of the body, and sometimes in another; but all the principal parts being affected at once."—*Blundell's Obstetricy*, p. 184.

† "The first symptoms of ascites are, infiltration of the ancles and feet, most obvious in the evening, gradually extending along the extremities; scanty urine, dry skin, thirst, dyspepsia, and the abdo-

fluctuation is very evident. The stomach is sometimes disordered, the skin dry, and the urine scanty. The audible signs of pregnancy are more faint and distant than usual, and the motions of the child are scarcely perceptible externally. The patient finds great difficulty in moving about because of her increased bulk, and when she lies down she generally suffers from dyspnœa and sleeplessness, or if she do sleep, from dreams.

Ascites is generally accompanied or preceded by some œdema of the feet and ancles; but it may form a part of that general dropsy to which I have before referred.

In many of these cases, labor comes on prematurely, and the child is lost.

In others, the ascites disappear before the full time, and the labor terminates naturally and successfully.

Lastly, in some the irritation and fever subsides, but the dropsy remains. At the time of labor, the accumulation of fluid in the peritoneal sac will lengthen the labor, by depriving the patient, to a great extent, of the assistance of the abdominal muscles; but there is seldom any danger in the delay. If the effusion disappear after labor, the patient will do well; but this is not always the case, and then the convalescence may be tedious or imperfect; or if the constitution be much injured, she may die soon after delivery.

The following case, which recently occurred, will show the serious nature of this complication. Mrs. ——, about six months pregnant of her fourth child, exhibited a general dropsical diathesis, with considerable effusion into the abdomen, but without local pain or disease. The pulse was weak, ranged from 120 to 140, respiration was hurried and rather labored, but no abnormal sound could be heard in the chest, and it was clear on percussion. The sounds of the heart were natural. She complained of clouded vision, and had occasional starts of faintness. The weakness and restlessness were excessive. The face was puffed, and the hands somewhat swollen. From the weakness of the pulse, and the general exhaustion, any depletory measures were out of the question; and by Dr. Johnson's advice I commenced a course of diuretics, but which had not time to be effective, for, on the fourth day from the time I first saw her, premature labor came on, and she was delivered of a dead child, after a short and easy labor, without hemorrhage. During labor she became faint, and immediately afterwards fell into a state of collapse, from which she never rallied.

The child's head, face, abdomen, and extremities were distended with fluid, and it had evidently been some time dead.

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men enlarging with unusual rapidity. To these succeed troublesome cough, difficult respiration, and restless nights, from frequent startings during sleep, unpleasant dreams, and inability to remain long in the recumbent posture."—*Campbell's Midwifery*, p. 517.

It is difficult to say what effect the ascites has upon the child, or how far it may inherit the diathesis. In some cases it has been born dead, with effusion into the abdomen; but in others it has been strong and healthy.

The disappearance of the fluid after delivery is generally owing to active absorption, or to suspended secretion; but occasionally it has been known to escape through the fallopian tubes into the natural passages.*

Some few cases are on record, and I have also seen such, where the pleura or arachnoid was apparently the seat of the effusion, giving rise to dyspnœa, and sense of smothering, or to sleeplessness or stupor.†

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* "Although the abdominal water of ascites, and the liquor amnii, are in distinct cavities, yet it has happened in some rare instances, that the water in the cavity of the abdomen has made its escape through the uterus. In these cases the water insinuates itself into the fallopian tubes, the fimbriated terminations of those tubes opening into the pelvis, and the other ends into the cavity of the uterus. The hydropic water is supposed to insinuate itself into the fallopian tubes after the expulsion of the fœtus. It has also been supposed that something more than mechanical action must be the cause of this, for it has sometimes been observed, when there has been a brisk discharge, that a sudden cessation of it has taken place. It might therefore be concluded, that as long as the tubes are pervious, agreeably to the idea of a mechanical insinuation of the water into them, or as long as they are disposed to act as living tubes, so as to perform the function of absorption, agreeably to the other idea, parturition might be looked to as a natural cure for dropsy of the abdomen. But such hopes are not likely often to be realised. The fallopian tubes may, indeed, sometimes act as absorbents, and take up all the accumulated fluid in the manner stated. The author has known one woman who had several of these accumulations pass through the uterus, or at least discharged by the way of the genital passage. After that result, and by the use of warm medicines and chalybeates, she entirely recovered her health. Some time subsequently she became pregnant, and afterwards did quite well. Upon the whole, therefore, our answer should be, that sometimes the disease is cured by delivery, and sometimes not—so as not much to elevate, nor on the other hand greatly to depress, the hopes of the patient."—*Davis's Obstetric Medicine*, vol. ii. p. 678.

† "A woman of vigorous constitution enough was seized during pregnancy with general effusion; parturition however came on, and the complaint ceased. Becoming pregnant again, she was a second time seized with effusion, which took place in the legs, the chest, and the abdomen. A very eminent practitioner was called in consultation

These cases, if not actively treated, frequently prove fatal.

586. *Diagnosis.*—The first question for our solution will probably be, whether the patient be *pregnant or dropsical;* and secondly, *if dropsical, whether she be pregnant also.* Mistakes have been made on both of these points, as the records of midwifery prove. Our main reliance is upon a careful investigation into the signs of pregnancy; and if they be present, a due estimation of the modifications in them which are caused by ascites.* These rules have been so well laid down by writers on legal medicine, and especially by my friends Drs. Kennedy and Montgomery, that I cannot do better than refer to their works.

It will be found very difficult to distinguish ascites, during pregnancy, from *dropsy of the amnion.* But sometimes, if the abdomen be not tense, the smaller uterine tumor can be distinguished in the midst of the dropsical effusion, when the patient is lying down.

587. *Prognosis.*—From what has been said, it will be evident that our prognosis should be extremely guarded. The patient may recover under favorable circumstances; but if the irritation be great, or the

with myself in this case; nothing very active was attempted; we did not see our way clearly to blood-letting; the water continued to accumulate, and the woman ultimately died, apparently from hydrothorax." "Some time afterwards I was called to another patient, also of a constitution tolerably sound; in this case the effusion had taken place into the legs, the abdomen, and probably the head; for at the time when I saw her, she was insensible, and had occasionally convulsive fits. This woman was very freely bled, to the amount of 40 or 50 oz. at least, in the course of two or three hours; premature delivery was intended, but parturition came on of itself in the course of the four-and-twenty hours; the next day I found the patient a great deal better; the day afterwards she was so much improved that she appeared to be in a state of speedy convalescence; unfortunately, however, she was seized with the puerperal fever, a complaint very prevalent and very fatal at the time, and though she was in the hands of a very excellent practitioner, she sunk under the disease."—*Blundell's Obstetricy*, p. 187.

* "The late Dr. Haighton used to mention a case to which he had been called in consultation with a surgeon of the first eminence, who was about to perform the operation of paracentesis, prior to which the doctor requested to be allowed to make an examination per vaginam. He found the os uteri a little open, and the membranes protruding; on rupturing the bag, a very large quantity of liquor amnii was discharged; presently afterwards followed a shrivelled fœtus, and the ascitic symptoms, as might have been expected, instantly disappeared."—*Denman's Midwifery*, p. 166.

constitution injured, she may sink after delivery, whether she go to the full time or not.*

588. *Treatment.*—As long as the effusion is very moderate, little need be done beyond keeping the bowels free; but if it occasion distress, and there be much general irritation, bloodletting may be employed, followed by diuretics and saline purgatives, so as to afford some relief, and enable the patient to complete the full term of gestation. The posture must be so regulated as to afford the greatest ease. The diet should consist chiefly of solid food, of a nutritious quality.

If the effusion, either into abdomen or chest, be extreme, and not diminished by the remedies employed, it may be necessary to decide between abdominal paracentesis,† and the induction of premature labor.‡ If the child be strong and lively, it may be desirable, for its

* "The *prognosis* should be guarded, more especially when the disease appears in more than one pregnancy; for after delivery, in such cases, it makes rapid strides, and proves fatal. One patient, of a delicate habit of body, in my own practice, had ascites in two successive pregnancies. In the first it was with difficulty removed subsequent to delivery; but after the second, the patient, though left in the most favorable condition, died in twelve hours. Scarcely two pounds of water were found in the abdomen, nor any morbid appearance to account for death. Sometimes premature labor is induced by the combined irritation of the dropsy and pregnancy, and the patient gradually sinks after delivery. I once witnessed a case of this kind, where the disease had been brought on by chronic inflammation of the liver. Another example happened in this city, where a similar state of the liver and ascites had been induced by a frequent indulgence in stimuli; and the patient died undelivered, under the most pusillanimous treatment. Such cases are exceedingly intractable."—*Campbell's Midwifery*, p. 517.

† "If the swelling increase," Burns says, "paracentesis must be performed; and I am surprised that there should even have been a moment's doubt as to its propriety, for there certainly can be none as to its safety. When the navel projects much, and is very thin, it has been proposed to puncture it with a lancet. In one case, related by M. Ollivier, the fluid continued to be discharged for twelve days, after which the puncture closed. In another, the patient herself pierced the navel fifteen or twenty times with a needle."—*Burns' Midwifery*, p. 269.

‡ "There is, too, another remedy, peculiar to this form of dropsy, and not to be lost sight of, and that is, the delivery of the woman; for the disease being connected with pregnancy, and evidently of danger in the more pressing cases, we are justified in bringing gestation to a close as soon as may be."—*Blundell, Obstetricy*, p. 186.

sake, in some cases, that the mother should incur the risk of the former operation; but in the majority of cases I should unhesitatingly prefer the latter, especially at or after the seventh month, as avoiding all risk to the mother, and perhaps saving the life of the child. Moreover, paracentesis is not unfrequently followed by premature labor; the mother thus incurring all the risk, without any benefit.

It has also this advantage, that should the practitioner have been deceived as to the abdominal effusion, the mother's life is not compromised by the operation, as in paracentesis.

If we perform the operation of tapping, great care will be necessary to avoid wounding the uterus, and to prevent subsequent peritonitis. For the mode of operating, I refer the reader to Cooper's Surgical Dictionary.

Little can be done to afford relief where the ascites is owing to organic disease; but it may be necessary to tap the abdomen, or to induce premature labor, if the effusion compromise the mother's safety.

BOOK III.

DISEASES OF CHILD-BED.

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It is, I fear, impossible to make any scientific arrangement of this class of diseases, involving so many tissues, and occurring so irregularly. In consequence of this difficulty, I have determined to describe those diseases and accidents first, which affect the uterine system; then, those which seem to be propagated from it; and lastly, certain febrile affections and disorders of the breasts.

But, in order that the limits of disease may be more perfectly defined, I have prefixed a notice of the ordinary phenomena of convalescence, with some variations therefrom, not involving organic disease, and some directions for the management of pregnant females.

CHAPTER I.

ON CONVALESCENCE AFTER PARTURITION.

589. In considering this subject, we shall assume that the patient, previous to labor, was strong and healthy; that the labor had been natural (under twenty-four hours), with the first and second stages bearing their usual proportion (2 or 3 to 1) to each other, and neither accompanied nor followed by any accidental complication, as convulsions, hemorrhage, &c.

No one can examine the condition of such a patient, before and after a labor of even a few hours' duration, without being struck by the change which has taken place. It is not the mere fatigue which might have followed muscular exertion of the same amount at any

time; but there is evidently a much more profound impression on the entire system.

The nervous system is more or less affected; the secretions are altered; new ones are established; the uterine system in itself, and in its relations, is completely changed; the circulation is disturbed, &c.

A little more detail upon each of these phenomena will be necessary.

590. *The nervous shock.*—The sudden alteration of the eye; the diminished or increased sensibility of the brain; the disturbance of the respiratory and circulating system; the altered secretions; the great exhaustion, &c, all are evidence of a shock to the nervous system, the effects of which are thus extensively felt. After easy labors it is not very remarkable, and the patient soon recovers from it; but it is too manifest to be questioned after those of a more serious character.

It has been usual to attribute the exhaustion of the patient to the fatigue resulting from muscular effort; but when the whole of the immediate consequences of labor are considered, and especially when extreme cases are examined, I think there is proof of much more than mere muscular exhaustion. The late distinguished Professor of Edinburgh, Dr. Hamilton, admitted this; for in his section on convalescence after delivery, in his Practical Observations, he repeatedly alludes to the *shock.*

When the shock is moderate, it gradually subsides, provided that the patient be kept free from all disturbance and excitement, and that she obtain a few hours' sleep. In proportion to the rapidity and completeness of its subsidence, will be the return of comfort to the patient, and the restoration of those functions which were disturbed in consequence of it.

591. *The state of the circulation and respiration.*—The changes induced in these systems appear to be partly the result of the muscular exertion, and partly in consequence of the nervous shock. I have carefully investigated the state of the pulse in a number of cases; and in the majority I have found the following alternations to take place. During the second stage of labor, the pulse always increases in frequency, though the amount varies in different persons. Shortly after delivery it falls, nearly, but not quite in proportion to its previous frequency; *i. e.* it becomes nearly as much below the ordinary standard, as it was above it previously. After the lapse of a few hours, a reaction takes place, the amount of which is nearly, but not quite in proportion to the original increase and subsequent collapse. Again, after twelve or fourteen hours it subsides, to be again increased on the secretion of the milk; after which, if the patient go on well, it gradually returns to the ordinary standard. To illustrate my meaning, let us suppose that during the second stage the pulse mounts up to 120; then, during the collapse, it will fall perhaps to 60; and on reaction taking place, it will rise to 100 or 110. I do not intend to give this

illustration, as the accurate standard of these changes, but merely as illustrative of the alternations I have generally observed; nor do I say that they occur in every case, but only that I have noticed them in a very large majority.

I have never been able to discover any proportion between the frequency of pulse induced by the secretion of milk, and its previous state.

The importance of these successive alternations will be seen more strikingly, when we come to consider the variations from normal convalescence; it may suffice to say, that I have seldom seen them absent (the pulse having increased during the second stage), without serious cause.

The frequency of respiration is in accordance with that of the pulse after natural labour, when the nervous shock has been moderated. During the increase of the circulation, the number of respirations per minute is increased, and again diminished during the collapse.

592. *State of the uterus, vagina, &c.*—Immediately after delivery, the uterus contracts more or less firmly, so as to reduce its size to about that of an infant's head. This contraction is beneficial in several ways: it prevents hemorrhage, it empties the uterine cavity, and diminishes the calibre of the uterine vessels and sinuses. After a short period of contraction, an interval of relaxation ensues, followed in its turn by renewed contractions.* The repeated contractions reduce the size of the uterus gradually, until, about the eighth or tenth day, it is small enough to descend into the pelvis.

Previous to this, it can easily be examined through the relaxed abdominal parietes, and a tolerably accurate knowledge obtained of its condition; but subsequently we can only reach the fundus at the brim of the pelvis; and after another week, it disappears altogether. There have been various opinions as to the mechanism of so rapid a change in the size of the uterus; some attributing it solely to the repeated contraction; and considering that the closing of the interstices between the fibres, and the exclusion of the supply of blood, would explain the diminution in size;† others suppose that absorption goes on rapidly at the same time.‡

* A contractile effort is continued, which produces from day to day a still more perceptible diminution, and proceeds till the uterus has acquired its pristine size. Along with the contractile effort, we have a material abstraction of the vascular supply. By the assistance of these agencies, the uterus is altogether restored to a state under which it is again capable of impregnation. Absorption has little to do in this part of the process."—*Ramsbotham's Pract. Obs. in Midwifery*, vol. i. p. 62.

† Murat, Dict. des Sciences Med., vol. xxviii. p. 517.

‡ Hamilton's Pract. Obs. in Midwifery, part ii. p. 7.

It is evident that this question can only be decided by the solution of a previous one, viz., whether, during the enlargement of the uterus, there is any deposit of new matter? If not, it is not more difficult to imagine the uterus restored to its natural size by the aid of contraction alone, than to suppose its increase dependent solely upon distension. It is a point, however, upon which I should be unwilling to speak very positively.

The condition of the cavity of the uterus is of great interest.* When examined a day or two after delivery, the lining membrane appears loose and corrugated, somewhat softened, and covered more or less by patches of the decidua. The part to which the placenta was attached is raised above the level of the surrounding parts; its surface is unequal, resembling in this respect a granulating ulcer; its size is wonderfully reduced.

The whole internal surface is of a dark ash color, while the discharge upon it may be greenish or brownish, giving the appearance of a morbid condition of the parts; indeed I have known it pronounced to be gangrene.

The structure of the uterus, if cut into, is found to be less dense than natural, and the fibres more distinct; the sinuses are still very evident, and at the placental insertion they are filled with clots of blood.

The os and cervix uteri are covered with ecchymoses, as though they had been severely bruised; and sometimes small lacerations may be observed in the edge. The orifice remains open for some days, but gradually closes.†

* "For several days after delivery, when no disease of the uterus has supervened, its lining membrane is coated with a yellowish brown, dark red, or ash-grey colored layer of no great thickness, which seems to be formed chiefly of the fibrine of the blood, with small portions of deciduous membrane. The os and cervix uteri are at this time of a deep red color, from blood extravasated under the lining membrane. Where the placenta had adhered, numerous dark-colored coagula of blood are found to seal up the orifices of the uterine sinuses, and frequently to extend a considerable distance into the veins."—*Lee, on some of the more important Diseases of Women*, p. 36.

† "By an examination, per vaginam, we detect the enlarged state of the uterus, and its identity with the abdominal tumor: and at the same time we ascertain the condition of the os uteri, which, in a recently delivered woman, is found gaping open, so that two or three fingers might be introduced into it with ease; its margins are flabby, and very much relaxed, and not unfrequently feel as if divided by very small fissures." "The vagina also is greatly relaxed and dilated, in consequence of which its natural surface is rendered smooth, its natural rugæ being obliterated by the recent distension of its tissues. From

The *vagina* is speedily reduced in size after its great distension: at first there is considerable heat and soreness; but this shortly subsides, unless the head of the child have remained long in the pelvis, or the lochia be acrid. The lower outlet, too, resumes its natural capacity in a shorter time than would have been believed possible.

The abdominal integuments are longer in resuming their natural state; they remain flaccid and loose for a considerable time; but if care be taken in the bandaging, but little evidence, beyond the presence of the white streaks, is afforded after a month or two, of their previous distension.

593. *After-pains.*—The contractions of the uterus, subsequent to delivery, of which we have spoken, are unaccompanied by pain in primiparous women; but in subsequent labors they cause more or less suffering, and are called "after-pains." They vary a good deal in their frequency, their severity, and their duration. The first is generally felt within half an hour after delivery, and they ordinarily cease in thirty or forty hours, though they may continue longer. They are not generally accompanied with any bearing down efforts, nor by an increased frequency of the pulse. During their presence, the discharge from the uterus increases considerably, and coagula are frequently expelled. From this latter circumstance, they have been attributed to the presence of coagulated blood in the uterus; but though they are often exasperated by this circumstance, they occur equally when no clots are expelled. Their operation is, within certain limits, undoubtedly salutary—they prevent the occurrence of uterine hemorrhage, reduce the uterus to its original size, and expel any coagula or discharge which may have accumulated.*

The application of the child to the breast will generally bring on after-pains, and prolong their continuance.

594. *The lochia.*—The discharge of blood which accompanies de-

the same cause also the external parts are swollen, not unfrequently contused, or even torn, especially after a first or a difficult labor, and partake of the relaxed state of the internal parts; there is also found issuing a peculiar discharge, to which we apply the name of lochia."—*Montgomery, Signs of Pregnancy and Delivery*, p. 304.

* After-pains "rarely occur after the birth of first children. They are spasmodic contractions of the uterus, either to reduce its volume to its original size, or (which is more common) to expel some coagulated blood contained in its cavity." "With all the care which can be taken, after-pains will sometimes take place. If they are intended to answer either or both of the purposes mentioned above, it is evident that their operation is, upon the whole, salutary; and on that account, they ought not to be prevented altogether. But they are sometimes so violent in this degree, that they deprive the woman of rest."—*Dr. John Clarke's Essays*, p. 39.

livery, continues for some time afterwards, doubtless from the mouths of the vessels exposed by the separation of the placenta; but after a while, the character of the discharge changes, and it can no longer be considered a mere escape of blood, but exhibits all the characters of a secretion. The state of the lining membrane of the uterus would lead us to expect such an occurrence. This discharge is called the "lochia;" or, in popular language, "the cleansings." For three, four, or five days, it continues of a red color,* but much thinner, and more watery than blood, and not coagulable; it then sometimes becomes yellowish, like puriform matter; but more frequently maintaining its serous consistence, it changes its color successively to greenish, yellowish, and lastly to that of soiled water.†

It has a very peculiar odour, which can neither be mistaken nor forgotten, but which it is impossible to describe.‡

* "The red color of the *lochia* commonly continues till the fifth day, though it is always turning more and more serous from the beginning; but about the fifth day it flows off clear; or sometimes (though seldom) of a greenish tint." "Though the lochia, as we have already observed, commonly continue till the eighteenth or twentieth day, they are every day diminishing in quantity, and soonest cease in those women who suckle their children, or have had an extraordinary discharge at at first; but the color, quantity, and duration differ in different women: in some patients, the red color disappears on the first or second day; in others, though rarely, it continues more or less to the end of the month. The evacuation in some is very small—in others, excessive; in one woman it ceases very soon; in another, flows during the whole month; yet all of these patients shall do well."—*Smellie's Midwifery*, vol. i. p. 258.

† "The flow from the uterus gradually undergoes certain changes in its character and appearance—becoming just like bloody serum; then milky like or purulent; then greenish or brownish, with an offensive smell, and acquiring an acrimonious quality, tending to excoriate the external parts: and finally colorless altogether. This discharge, technically styled the lochia (in vulgar language, the cleansings), varies in appearance, in quality, and in duration, not only in different women, but in the same woman in different lyings-in; and it never naturally ceases till the uterine system be restored, or nearly so, to its ordinary condition in the unimpregnated state."—*Hamilton's Pract. Obs.* part ii. p. 3.

‡ "This fluid has a peculiar odour, not easily named, which distinguishes it from menstruation, leucorrhœa, or morbid discharges. Lowder compared it to the smell of 'fish oil;' others speak of it as a sour smell; but any one who has been much about lying-in women, especially in the wards of a lying-in-hospital, must be aware of the peculiarity of this '*odor gravis puerperii*,' which, Dr. Beck informs us,

The duration of its flow varies a good deal: in some women it ceases naturally, and without bad consequences, a few days after delivery; and I have observed this to be frequently the case with women who have been delivered of still-born or putrid infants. Generally speaking, in these countries it does not entirely cease till the end of three weeks or a month; but much will depend upon the constitution of the patient.

As to the quantity, it is impossible to fix any limits—it will depend partly upon the extent of secreting surface, and partly upon the duration of the discharge; and the effect upon the convalescence of the patient will be somewhat in proportion to the amount.*

There can be no question but that the secretion (with one exception) is necessary for uterine health, and that a sudden interruption of it is attended with bad consequences.

595. *The secretions and excretions.*—From the exertions of the second stage of labor, the secretion of the skin is increased, so that the surface is bathed in perspiration. After delivery, this active state of the secretion diminishes somewhat, but still continues above the ordinary standard; and very often the perspiration has a faint sickly odour. The skin is soft and flabby, with a slightly greasy feel.

As convalescence progresses, the surface returns to its natural state.

The kidneys may retain their usual activity, or, which is more frequent, have it somewhat increased after delivery, notwithstanding the usual amount of perspiration; but this may be owing to the diet, which consists principally of fluid matter.

The state of the bowels varies; sometimes it is unaltered, in others it is the reverse of what it was during gestation, patients who were constipated having now no need of medicine; and those who were annoyed by diarrhœa having solid motions. The latter change is by no means uncommon, and may probably be owing to the increased secretion from the skin and kidneys.

596. *The milk.*—The enlargement of the breasts during gestation is generally accompanied with the secretion of a serous fluid, differing from true milk, though in some cases (seldom with first children) true milk is secreted during labor, and the woman can give suck immediately afterward.

it has been found impossible to destroy."—*Montgomery, Signs of Pregnancy and Delivery*, p. 305.

* "Much pains have been taken to ascertain the average quantity of the lochial discharge which comes away, with a view to regulate it, especially as the foundation of many diseases has been conceived to be laid in the redundancy or paucity of it. But when we consider what the nature of the evacuation is, the difference of the quantity will be found to vary much, and not to be reducible to any rule."—*Dr. John Clarke's Essays*, p. 30.

In ordinary cases, however, the breasts remain quiescent for about twenty-four hours,* but soon after that begin to enlarge, with stings of pain. At the end of the second, or the beginning of the third day, they are perceptibly larger, heavier, and more tense; the patient may suffer from rigors, heat of skin, pain, or soreness of the breasts, and the pulse is quickened.† At this time the secretion commences—at first slowly, and with difficulty; but afterwards more freely and abundantly; and in proportion to the freedom of secretion is the diminution of the heat, frequency of pulse, and pain, until after two or three days it takes place without annoyance or disturbance.

The milk at first secreted differs in quality from that eliminated subsequently; and will often supersede the necessity of purgative medicine to the child.

Variations from this, the ordinary course of secretion, will be noticed hereafter

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CHAPTER II.

ON THE MANAGEMENT OF PUERPERAL FEMALES.

597. I do not see that I can do better, in speaking of the management of women in child-bed, than follow the divisions adopted in treating of the phenomena of the puerperal state.

In ordinary cases, the *nervous system* does not require any active attention. She should be kept for some time in a state of perfect quiet. The room should be slightly darkened, and very few persons,

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* "The means from which the secretion is furnished are sparingly supplied for the first twenty-four hours, and the secretion is scanty: after that period, both are improved: by the end of the third or fourth day, the breasts are freely distended, and the supply amply afforded." *Ramsbotham's Pract. Obs.* vol. i. p. 70.

† "After the shock occasioned by the violence of the labor has subsided, the current of blood is directed from the uterus to the mammæ, and the secretion of milk begins; and this new function is commonly productive of a considerable disturbance of the general system, constituting what is termed the milk fever—the violence and duration of which are influenced chiefly by the circumstance of the woman's nursing the infant, or discouraging the milk."—*Hamilton's Pract. Obs.* part ii. p. 4.

except the nurse, admitted. Little or no talking should be permitted, and no whispering The conversation and demeanour of all should be cheerful, and no ill news, nor frightful stories, related. Mental emotion of any kind is apt to produce injurious effects.

The horizontal position should be strictly preserved, and the patient should be encouraged to go to sleep. After a few hours' quiet and sleep, the nervous system will have recovered its tone, and the patient will be free from danger on this account.*

As the state of the *pulse* is merely symptomatic, it will be remedied best by our successful management of the patient in other respects. It should be narrowly watched, and accurately estimated, as its deviations will often be the first evidence of mischief going on.

598. Immediately after delivery, it is proper and customary to apply compression *to the abdomen*, by means of a broad binder. This is useful, in the first place, to fix the uterus, and secure its steady contraction; and secondly, to encourage the contraction of the abdominal parietes. The binder should extend from the ensiform cartilage to the pubis, and should be carefully applied for ten days or a fortnight. To the neglect of this precaution are to be attributed the cases of loose or "pendulous belly" we often meet with.

Immediately after the expulsion of the after-birth, a warm napkin should be applied *to the vulva*, and changed at short intervals during the day. This will afford relief from the smarting pain consequent upon the passage of the child. After some hours, when the patient is recovered, the external parts should be washed with tepid milk and water, containing a small portion of spirit. This must be repeated twice a-day, not only for the sake of cleanliness, but to aid in restoring the parts to their natural state.

A horizontal posture is peculiarly favorable to the uterine organs, in the relaxed state in which they are after delivery; the patient cannot assume an upright position, without a certain amount of displacement, and a risk of hemorrhage. By keeping the patient on her back, we may even remedy old displacements. A lady had prolapsus uteri after her second confinement, which lasted till she became again pregnant; this was mentioned to me when I was called to her in her third

* "It need hardly be observed here, how much quiet and rest, immediately after labour, must contribute to appease that irritation of the system which is occasioned by the violent efforts of labor; and therefore, of what great consequence it must be, that all admission of company be carefully avoided. The patient should be laid in bed, without being newly dressed; and, above all things, she should not be allowed to be in any but a horizontal posture. I have known some instances in which the woman has died immediately after delivery, from being unable to bear an erect posture of body."—*Dr. John Clarke, on the Management of Pregnancy and Labor*, p. 25.

labor. I kept her unusually long in bed, and subsequently on a sofa; and the parts completely recovered their natural state, so that she suffered no more from the displacement.

In ordinary cases, the *after-pains* require no treatment; but if they should deprive the patient of sleep, we may give an aromatic purgative, or a dose of laudanum.

599. The only attention which the *lochia* require is, that the napkins should be changed sufficiently frequently, and applied warm—as any sudden impression of cold to the external parts may be followed by suppression of this discharge. It is by no means necessary (as stated by some authors) that the patient should change the horizontal position, for the purpose of allowing the lochia to escape from the uterus and vagina. At the utmost, the slight change necessary for passing urine will suffice for this object also.

The state of the *surface* will point out the propriety of not exposing the patient to a draught of cold air. She should be allowed to cool gradually, and then the bed and bed-clothes should be so arranged, as to afford a comfortable degree of warmth, but not great heat. With the same view, the air in the room should be kept cool and fresh. A fire will probably be necessary (except in very hot weather); but it should be as small as convenience will permit.

Directions should be given for the patient to *pass water* within six or eight hours after delivery, or sooner; and this should be done as nearly in the horizontal position as possible. Owing to the distensible state of the abdominal parietes, the patient will often wait much longer, if not reminded; and the consequences may be very troublesome, if not serious. The bladder may become paralyzed; or inflammation may spread from it to the peritoneum. If there should be any difficulty in evacuating the bladder, as sometimes happens, a cloth wrung out in warm water, and applied to the vulva, will remove it; or if not, we must have recourse to catheterism.

The *state of the bowels*, after delivery, is of great importance; it is, perhaps, better that they should continue quiet for twelve or fourteen hours after delivery, on account of the fatigue; but after that time has elapsed, we should procure a discharge by medicine, if there be none spontaneously. A dose of castor oil, senna, or rhubarb, may be given; and if necessary, repeated. The frequency of repetition will be regulated by the state of the bowels previous to labor. If we suspect any accumulation, we should not be satisfied until the intestines are well cleared out; and if the patient do not suckle her child, purgatives will be the more necessary, for the relief of the breasts. In the latter case, the saline purgatives will be found the more useful.

600. When the breasts begin to enlarge, and to be painful, warm fomentations may be employed, or frictions with warm oil, or a slightly

stimulating liniment.* A dose of purgative medicine, as already mentioned, should also be given.

As soon as there is reason to suppose that secretion has commenced, the child should be put to the breast, as it will facilitate the escape of the milk, and prevent undue distension.

It is better to do this, even if it should not be the intention of the patient to suckle her infant, as it will afford relief, and by not suffering the child to do more, we insure the ultimate subsidence of the secretion, which is always in proportion to the demand upon it, and if this be very slight, it will soon cease altogether.

601. The importance of preserving the *horizontal posture* has already been stated; I shall therefore merely add, that the patient should never leave her bed, even to have it made, before the fifth or sixth day, and if she can be persuaded to limit her exertions to this point for eight or nine days, so much the better.† Far more mischief results from premature exertion, than from all the errors in diet added together.

The regulation of the *diet* is, nevertheless, of considerable importance, as excess, by inducing feverishness, may retard the convalescence.

The patient should be confined to slops—gruel, panada, arrow-root, milk, whey, weak tea, &c.—with bread or toast and butter, or biscuit, for three or four days.‡ When the excitement produced by the secretion of milk has subsided, if there be no counter-indication, she may take some broth, and on the seventh or eighth day, some chicken, or a mutton chop, with some wine and water.

In all that concerns the diet, or the assumption of the upright posi-

* "Covering the sufare of each mammæ with some gently stimulating liniment (in those cases where the milk is to be discouraged,) not only relieves the unpleasant feeling of tension, but also promotes the absorption of the milk. The preparation recommended by the author is, one ounce of unbleached bees' wax, two ounces and a half of fine olive oil, and two drachms of pure honey, melted together."—*Hamilton's Pract. Obs. in Midwifery.*

† "For these reasons, if there were no other, it seems right that no woman should rise before the end of the third or fourth day, even to have the bed made; and if she be a weakly or delicate subject, she should even observe an horizontal position longer."—*Dr. John Clarke's Essays*, p. 34.

‡ "In general it is better, I believe, to avoid animal food of all kinds, till the stimulus, arising from the secretion of milk, has subsided. But even this must be done with some limitations, because there are some very weak and delicate women whom it is necessary to support by more substantial food than gruel or barley water, however proper they may be for the strong and plethoric."—*Dr. John Clarke's Essays on the Management of Pregnancy and Labor*, p. 26.

tion, or making exertion, it cannot be too strongly impressed upon all, that an excess of caution is an error on the safe side.

In conclusion, I would observe that the patient should not be left until an hour after delivery, and that she ought to be visited again in six or eight hours, at which time careful inquiry should be made as to the different points we have noted, and strict and minute directions given.

CHAPTER III.

ON CERTAIN VARIATIONS FROM ORDINARY CONVALESCENCE.

602. The phenomena of ordinary convalescence have been described as they occur in the most favourable cases; but there are many variations from such a course, arising either from some peculiarity of constitution, or from the character of the labor, or the pressure exercised upon some of the organs.* Even without any reference to the influence of the labor, there are certain irregularities which arise with or without special cause, but which occasion great anxiety to the patient, and even to the medical attendant.

Many of these issue in serious disease, and will be treated of in their place; whilst others, even more numerous, are mere temporary deviations from the normal course—but requiring some familiarity and nice discrimination, in order to distinguish them from the graver attacks. Of these it is proposed to treat briefly in the present chapter.

603. *The nervous shock* may be very severe. In these cases, the patient complains of great exhaustion; the senses are either unnaturally dull or morbidly acute, the breathing is hurried and panting,

* "Again, when there has been unusual suffering during labor, the ordinary changes after delivery cannot be expected to proceed in a healthy, regular manner, because the exhaustion of sensorial power must more or less paralyze the minute internal actions of every part of the system. *Secondly*, the violent pressure to which all the parts concerned in the mechanism of labor had been subjected, must excite an unusual tendency at least to inflammation; and *thirdly*, the long-continued and violent actions of the respiratory organs, must not only render them liable to derangement, but, by their influence upon the capillaries of every part of the body, must occasion an inequality of circulation that may prove highly injurious."—*Hamilton's Pract. Obs.* part ii. p. 9.

and the accordance between the respiration and circulation is broken. The aspect of the patient is that of a person in a state of collapse. The countenance is expressive of suffering, anxiety, and oppression. The pulse may be either very slow and labored, or unusually rapid, very small, and fluttering. There are many cases, however, where the shock, though far from being so severe as in the case I have supposed, is quite sufficiently so to excite the fears of the medical attendant. Reaction is long before it occurs; or it may take place imperfectly or excessively, and the patient remain for some time in a very weak condition.

Under proper treatment, the patient will gradually recover from this state of exhaustion or collapse, unless the shock be excessive, and then death will supervene in a few hours. I have seen several cases of this kind: in one case, the labor was tedious, but terminated naturally; two others were instrumental deliveries; but in none where a *post mortem* examination was obtained was there either injury or disease discovered.

A due estimate of the nervous shock is of great importance in severe cases; for in almost every instance, the progress of the convalescence is in inverse proportion to the amount of this disturbance.*

The best remedy in these cases is opium, either in a large dose, or in small and repeated ones; it not only gives the patient a chance of

* "From the moment of delivery it is of the utmost importance to attend to the state of the nervous system. In some individuals slight circumstances increase in a wonderful degree the susceptibility of impression; and if this be overlooked, very serious consequences follow."

"Various means are required to prevent or remove this increased susceptibility of impression, but in the greater number of cases it will be found that the following treatment answers the purpose. Instead of the farinaceous diet, which in ordinary cases ought to be enjoined for the first few days, chicken broth or boiled chicken ought to be recommended; and even in some cases, a moderate proportion of diluted wine."

"Any attempt at suckling the infant should be discouraged; for in certain constitutions the drain of milk, independent altogether of the fatigue, is apt to occasion very serious nervous affections, such as melancholia, &c."

"Six or eight hours of uninterrupted sleep every twenty-four hours should, if possible, be procured." "In cases of violent palpitations of the heart, the musk will be found superior to every other medicine, provided it be administered in a sufficiently large dose. The author has invariably prescribed in similar cases two scruples, that is, forty grains, as the smallest dose."—*Hamilton's Pract. Obs. in Midwifery*, part ii. pp. 19, 20, 21.

sleep, the best restorative of all, but even if it fail in this, the system will be quieted, the respiration rendered more equable, the pulse slower and more natural, and the relation between these two systems restored.

The exhibition of stimulants, (wine, or brandy and water) in moderate quantities, is necessary; but we must be careful not to exceed, or they will do mischief instead of good. The amount of stimulants given in most cases of collapse should have reference as well to the probable reaction as to the present state of the patient: thus, an excessive quantity of wine given during the collapse of the nervous shock, may render the reaction so extreme as to give rise to fever, or puerperal mania. Ammonia and musk are the best medical stimulants, and they may be combined with the opium. The diet of the patient, when the effects of the shock have subsided, must be nutritious. It may be necessary to postpone the application of the child to the breast for some days, or even to give up suckling altogether in some cases.

All that has been said already upon the necessity of perfect quiet, applies with ten-fold force to these cases of extreme nervous shock.

604. *The state of the pulse.*—One variation from the usual alternations of the pulse has just been noted, in cases of great nervous shock, when it either sinks below its due proportion, or more frequently remains very quick, weak, and fluttering, during the period of collapse.

In almost all cases of flooding after labor, when I have had an opportunity of examining the pulse up to the time of the occurrence, I have found it remain quick, and perhaps full, instead of sinking after delivery. This has been so marked in several cases, that I now never leave a patient so long as this peculiarity remains; and in more than one instance I believe the patient has owed her safety to this precaution. Three cases occurred within a very short time of each other, in which I noted this undue quickness of the pulse without any other untoward symptom; at that time there was no excessive discharge, and the uterus was well contracted. In all these, alarming hemorrhage occurred within an hour, and was with difficulty arrested.

I have also remarked an undue frequency of pulse when the after-pains are extremely violent; and as the uterus is in such cases rather tender on pressure, it requires care to distinguish between this state and the commencement of puerperal fever.

This observation will also apply to the quickening of the circulation which takes place when lactation commences, and which in addition may be accompanied by rigors.

A careful estimate of all the symptoms in either case will generally elucidate the nature of the excitement; and the subsequent diminution, instead of increase of the pulse, will decide the question.

Again, in cases where a large coagulum is contained in the uterus,

the pulse is quickened. I had noticed this repeatedly before I could explain it; but having found it subside immediately on the discharge of clots, I have no doubt that this was the cause.

Lastly, the pulse may be accelerated if the patient suffer from diarrhœa or gastric disturbance; and as it is not always easy to foresee the issue of such an attack, the utmost watchfulness will be required.

The *diagnosis* may be very obscure, and it may be necessary to adopt certain measures, rather suited to the attack we fear, than to the disturbance from which the patient is suffering. Along with the soothing and astringent medicine adapted to the state of the bowels, it will be prudent to administer small doses of blue pill or calomel in combination with opium.

All the observations I have made fully confirm Dr. John Clarke's observation, that no woman can be considered as *safe* whose pulse exceeds one hundred.

605. *The state of the uterine system.*—With regard to the variations from the ordinary size of *the womb*, and its gradual decrease, I have found sometimes, on the fourth or fifth day, that its bulk had *increased*, and that it felt less firm than previously; this, combined with an increase of frequency in the pulse, has made me fear an attack of hysteritis; and this fear was not diminished by the uncomfortable sensations of the patient; nor by the fact, that in some cases the lochia had suddenly diminished in quantity. However, upon applying hot fomentations to the abdomen, a quantity of coagula were discharged, affording instant relief to the patient, and indicating the source of the symptoms. Purgative enemata also favor the expulsion of the clots; and in such cases may be given with great benefit.

It has been already mentioned that the uterus is not free from tenderness in cases where the after-pains are severe; and if it be rudely pressed, the outcry of the patient may lead us to suspect the presence of serious disease. It will be observed, however, that this tenderness is *greatest during each uterine contraction, and that as these contractions subside, the soreness diminishes.*

Fomentations to the abdomen will generally mitigate this sensibility; but if the after-pains be severe, and the tenderness considerable, a full dose of laudanum, followed by an aromatic purgative, will probably relieve both.

The *vagina* may be attacked with inflammation, which sometimes proves extremely distressing: this will form the subject of a separate chapter.

In cases where the lochia are acrid, the orifice of the vagina, with the labia and external parts, are apt to be excoriated. The patient may suffer extremely either from a smarting pain, or from itching; and it is difficult to say which is the more distressing. Extreme cleanliness, frequent bathing, lead lotions, black wash, or vaginal injections

of warm water, may be tried, and will ordinarily afford relief; if not, the disease will generally subside with the cessation of the lochia.

Neglect in the application of the binder is very apt to result in an excessive *relaxation of the integuments of the abdomen*, and an unpleasant prominence of the belly, which at a subsequent labor may prove inconvenient, and is at all times unsightly. The best means of removing this relaxation is by friction with stimulating liniments, cold bathing, and a moderately tight bandage.*

After a subsequent labor, it will not be difficult, by careful bandaging, to prevent its recurrence.

606. *The after-pains.*—Instead of coming on about half an hour or an hour after the labor, in a moderate degree, and ceasing after a short time, I have known them commence immediately after the extrusion of the placenta, continue far beyond the usual time, and occasion excruciating agony.† In these cases, the tenderness of the uterus was very marked; but when, under the influence of remedies, the pain ceased, the tenderness disappeared also. The pulse was increased in frequency for the time. This state does not depend upon the presence of coagula in the uterus, as in the worst cases I ever saw none were expelled; but it seems to be rather a spasmodic contraction of the uterine fibres.‡

* "When a suitable attention has been paid, the relaxation of the parietes of the abdomen has always been removed; and in several cases where, from neglect and mismanagement during successive lyings-in, the individual had such a state of the belly that the parietes hung over the pubes like an apron, keeping up a constant irritation and excoriation on the surface of the groins and upper part of the thighs, he has succeeded in removing that unseemly and uncomfortable condition of the person after a subsequent delivery, by means chiefly of stimulants, frictions, and pressure."—*Hamilton's Pract. Obs. in Midwifery*, part ii. p. 16.

† "After delivery, the uterus itself, or its appendages, or any of the contents of the abdomen, may be affected from this cause with pain, varying in degree, but sometimes extremely severe. This may often be relieved by lightly rubbing the abdomen with a warm hand, or with some anodyne embrocation, or the application of warm flannels, wrung out of some spirituous fomentation."—*Denman's Introduction to Midwifery*, p. 469.

‡ "Several cases of violent spasms of the uterus have fallen under the editor's observation, which have been speedily relieved by the liberal exhibition of opium. In one case he administered a teaspoonful of laudanum, and repeated the dose at the expiration of a quarter of an hour. These spasmodic attacks may usually be known by the hard and stony feel of the uterus through the abdominal coverings; by there being little or no increase of pain on pressure, besides what

The remedy is a large dose of opium, in the most convenient form. Less than forty drops should not be given; and it may be necessary to repeat this dose once or twice. At the same time hot flannels may be applied to the abdomen and vulva.

The after-pains sometimes continue, at intervals, for several days, and are especially severe whenever the patient attempts to give suck. They occasion a good deal of distress and exhaustion, by preventing sleep; and on this account, it is desirable to suspend them after some time.

This may be done by cordials, aromatic purgatives, or a dose of laudanum.

607. *The lochia.*—Perhaps no deviations from the ordinary phenomena of convalescence excite more alarm in the patient's mind, than variations in the quantity, quality, and odour of the lochia. She will scarcely be persuaded that such are not the unfailing evidences of organic disease. Yet very remarkable differences do occur, without any morbid affection of the uterus or vagina.

The discharge may cease a few hours after delivery, especially after the birth of still-born or putrid children, without any unpleasant symptoms.

The discharge may continue the usual time, but in very small quantity; and this is commonly the case when flooding occurs during or after delivery.*

may be naturally expected so soon after delivery; by the pulse remaining steady, and the tongue clean."—*Dr. Waller's Note*, p. 470, in *Denman's Midwifery*.

"Hysteralgia (spasmodic pains) may occur soon after delivery, and is marked by severe pain in the back and lower belly, frequent feeble pulse, sickness, and faintness. This is sometimes accompanied with discharge, or succeeded by the expulsion of a coagulum. In other cases, although attended with severe bearing down, we have no expulsion of coagulum, no retention of urine, no inversion of the uterus. Another modification of this comes on later, but always within three or four days after delivery, and attacks in general very suddenly. Perhaps the patient has risen to have the bed made, becomes sick, vomits, and is seized with violent pain in the lower part of the belly, or between the navel and pubis. There is no shivering, at least it is not a common attendant, and the pulse becomes very rapid, being sometimes above 120; the skin is hot, the lochia usually obstructed, and the uterine region is somewhat painful on pressure. After some hours, the severity abates, and presently, by proper means, the health is restored."—*Burns' Midwifery*, p. 564.

* "If there be little or no evacuation of the lochia, and the woman be in health, no remedies are required; and if she be diseased, the

On the other hand, it may be excessive, though not prolonged beyond the usual time; or without being excessive, it may continue unusually long. In these cases, it may be necessary to allow the patient a better diet, and to give tonics, such as bark, preparations of iron, &c.*

In some cases, the lochia, after decreasing in quantity for some time, are suddenly discharged in double quantity, and of a red color, but without coagula. This generally happens when the patient is permitted to sit up too soon. Or it may happen at a later period, in consequence of walking about too much. A little extra rest will, however, suffice to restore the patient to her former state.

Again, the os uteri is sometimes obstructed by a clot, and the lochia are greatly diminished, or perhaps altogether restrained, until the expulsion of the clot affords an exit to the accumulation.

Instead of the usual changes, from red to yellow, or greenish, the red discharge may persist; or after these changes have taken place, the red discharge may return. In these cases, it is necessary to be on our guard, as the change may be the precursor of secondary hemorrhage. The patient should be confined to the horizontal position, and clothed very lightly.

The lochia, after going through their ordinary changes, may terminate in uterine leucorrhœa, which may become permanent. This will be best remedied by counter-irritation to the sacrum, and the internal exhibition of copaiba, iron, or ergot of rye

Again, the unusual color of the lochia may excite alarm. Instead of the transition from red to a pale red, yellowish, or greenish color, they are sometimes a dark brown, and perhaps more tenacious than usual, or acrid, so as to excoriate the vulva.

Lastly, examples occasionally occur where the lochia have a very offensive fœtid odour, occasioning great annoyance both to the patient

means appropriated to the relief of her complaints will reproduce it."—*Dr. John Clarke's Essays*, p. 32.

* "The lochia, however, from various causes, will continue for a great length of time; nay, during the whole month, or even longer, to the manifest injury of the patient."

"We have sometimes found this discharge kept up by a febrile condition of the system, which has been perhaps produced by an improper consideration of the case by the friends of the patient, who cannot imagine that any other cause than debility can produce the discharge in question, and accordingly give wine, bark, and cordials, with a view to arrest it; and thus perpetuate the evil they intended to cure." "In cases like those we have thus described, we cannot expect to relieve the discharge until we have subdued the febrile condition of the system."—*Dewees' Compendium of Midwifery*, p. 209.

and her friends. The discharge is generally of a dark color, and often acrid. It may arise from the decomposition of a small portion of the placenta or membranes which were left behind, or from the putrefaction of coagula.*

I have never seen any serious results from it; and certainly it does not necessarily indicate disease of the uterus.

The vagina should be syringed, twice or three times a day, with warm milk and water, or a very weak solution of chloride of lime.

608. *The bladder.*—"After severe labor, the neck of the bladder and urethra are sometimes extremely sensible, and the whole of the vulva is tender, and of a deep red color. This is productive of very distressing strangury, which is occasionally accompanied with a considerable degree of fever. It is long of being removed, but yields at last to a course of gentle laxatives, opiates, and fomentations. Anodyne clysters are of service. An inability to void the urine requires the regular and speedy use of the catheter."

609. *The breasts.*—Variations in the period of the secretion of milk are frequent, but of no moment. If the vascular action be excessive, it must be moderated by antiphlogistic remedies, such as tartar-emetic, fomentations, &c., and by the frequent application of the child.

If, as in some rare cases, no secretion should take place, the child will require a wet nurse, but the mother will not suffer.

When the nipples are deficient or mal-formed, we must endeavour to draw them out by the breast-pump; but if this do not succeed, we must obviate the ill effects of secretion by tartar-emetic, saline purgatives, fomentations, &c.

* "The lochia are sometimes observed to be fœtid; and this has often been supposed to be a proof of disease. But the fœtor of the lochia often depends upon accidental circumstances, where there is certainly no disease, such as a very small portion of the placenta left behind; or portions of the decidua, which putrefy and come away; or the coagula of blood which had been formed in the extremities of the veins and arteries of the uterus, (especially if it have not acted very strongly at the time of expelling the placenta) putrefying and coming away, give a fœtor to all the rest of the discharges."—*Dr. John Clarke's Essays*, p. 32.

CHAPTER IV.

SANGUINEOUS TUMOR OF THE LABIA.

610. The first British writer who described this accident was Dr. Macbride of Dublin, who, in 1776, communicated two cases to Dr. Hunter, which were published in the *Medical Observations and Enquiries*.* It had, however, been previously noticed, for Dr. Merriman observes: "Dr. Macbride, of Dublin, is generally supposed to be the first author who described this kind of tumefaction of the labium, in 1776; but I have met with a very exact description of it in the *Observations of Veslingius*, published in 1647: he says, Obs. 50, 'Alias jam bis observassem ab effuso intra tunicas vaginæ sanguine in partu difficili pudendi labium ingenti tumore distensum fuisse, quo aperto sanguineque atro paulatim evacuato, mulieres evasere.'"

Professor Boer, of Vienna, in his *Medicina Obstetricia*, has a chapter, *De fluxu quodam sanguinis in puerperis ante incognito*, in which he describes a most extensive separation of the vagina from its attachments, in consequence of an immense effusion of blood into the cellular substance.†

In order that my readers may have an accurate notion of the occurrence, I shall extract the first of Dr. Macbride's cases. "One morning, in the month of August, in the year 1776, I was called on by a gentleman's servant to visit his wife, who, he said, had been delivered about an hour before, but, nevertheless, continued in very great pain, and by the people about her was believed to be in a dying way. Upon examination, I soon found that the distress was occasioned by a large and very painful swelling of one of the labia, which the woman told me had formed itself soon after delivery, though she had a natural and easy labor." "I sent for Dr. Cleghorn and the gentleman who had delivered her. By the time that these gentlemen came, which was about an hour, the swelling had acquired the size of a new-born child's head, was exceedingly painful and hard, and extending itself to the perinæum, had a most frightful aspect, as the skin was grown livid. The case being new, none of us could well ascertain the true nature of this tumor; but having directed the application of stupes, wrung out of a spirituous fomentation, we agreed to see her again in the evening. At the second visit, we found the pain nothing abated, but the swelling more enlarged, the integuments mortified, and ready to burst at the most prominent part of the tumor. In the course of the night, this actually happened, and a large quantity of coagulated blood having

* Vol. v. p. 89.

† Merriman's Synopsis, p. 111, *note*.

discharged itself from the opening, the pain ceased in a great measure, and the swelling was found reduced at least three-fourths, by the time that we paid our morning visit." "There being now a considerable space of the skin in a mortified state, the fomentation was ordered to be continued, and proper digestives applied, with a view of encouraging the separation of the sloughs. For about a week, the quantity of coagulated blood that came away in lumps, was considerable at each dressing; but this discharge gradually abated, and the remainder of what had extravasated was either melted down in the course of suppuration, or taken back by absorption, so that by the end of two months there were no remains left of the swelling, the sore healed up, and the woman found herself free from all complaint."

A third case was read by Dr. Rainey of Dublin, in 1774; a fourth was published by Dr. Maitland, in 1779;* and a fifth by Mr. Perfect, in 1783.† Denman met with three such cases,‡ and the accident is mentioned as one of the complications of labor by Burns, Merriman,§ Dewees,‖ Hamilton,¶ Campbell,** Davis,†† and the more recent writers on midwifery.

Cases have also been related by Chaussier,‡‡ Mad. La Chapelle,§§ and by a writer in the "Recueil periodique de la Société de Santé de Paris."

In Germany it has been described by Shreider,‖‖ Boer,¶¶ Siebold,*** Ebert, Carus,††† Naegele, jun., Stendel, and others.

In his excellent and elaborate address, delivered at the fourth anniversary meeting of the Provincial Medical and Surgical Association, held at Manchester, July 21, 1836, Mr. Crosse‡‡‡ remarks: "In no branch of midwifery have more contributions been furnished, within the recent period to which I refer, than in regard to certain *varices* attaining an enormous size, and bursting, so as to form sanguineous extravasation into the labia or cellular tex-

* Med. Commentaries, vol. vi. p. 86.
† Cases, vol. ii. p. 63.
‡ Midwifery, p. 406.
§ Synopsis, p. 111.
‖ Diseases of Females, p. 32.
¶ Outlines of Midwifery, p. 87.
** Midwifery, p. 328.
†† Obstetric Medicine, vol. i. p. 45.
‡‡ Vol. xxxiv. p. 268.
§§ Prat. des Accouch. vol. vi. p. 200.
‖‖ Siebold's Journal, vol. xi. p. 103.
¶¶ Medicina Obstetricia.
*** Frauenzimmerkrankheiten, vol. ii. p. 482.
††† Med. Chir. Rev. vol. xvii. p. 224.
‡‡‡ Trans. of Prov. Med. and Surg. Ass. vol. 5. p. 95.

ture of the pelvis and vagina, often with a suddenly fatal result. Within the sphere of my own observation, one such case has recently transpired, which led to a coroner's inquest, as unfortunate cases in this line of practice are not unfrequently found to do—affording strong proof of the responsibility incurred by the accoucheur. The names of Phillipart,* Naegelé,† jun., Steudel, ‡and others,§ may be enumerated, in the impossibility which I find of dwelling upon the subject; and the elaborate paper of Mr. Ingleby, upon the tumors‖ obstructing delivery, may be consulted as affording the best rule for discovering and treating such cases."

And at a recent meeting of the Dublin Obstetrical Society, Dr. Montgomery gave an account of two such cases.

From this brief summary, it appears that although the occurrence is rare, it is by no means so uncommon as at first supposed.

611. This disease, which consists of an effusion of blood into the cellular tissue, may affect one or both labia, and may extend into the pelvis, and downwards to the perineum. It may occur during labor, previous to delivery of the child, but more frequently immediately after its termination.

In Dr. Maitland's, Mr. Perfect's, MM. Naegele's, jun., and Steudel's cases, it occurred previous to delivery; in some at rather an early stage of labor. Of course in such cases it offers a considerable impediment to the exit of the child, and it is in some cases so great as to require artificial aid to extract the child, whether the tumor have burst or not. When the tumor is also rather within the orifice of the vulva, it may probably, and indeed appears to have been, in two or three cases, mistaken for the "bag of the waters;" but a more careful examination will prevent this error.

More frequently, however, the tumor appears after labor; sometimes immediately; in other cases, as Dewees remarks, after a short interval. It does not require either a difficult or a tedious labor for its production; in many cases the labor has been short and easy, as in Dr. Macbride's cases; but it must be admitted, that with the predisposition (whatever it may be) existing, there would be greater probability of its occurrence in the former class of cases.

The effusion may occupy one labium, or both; in some cases it extends downwards to the perineum; in others, inwards into the pelvis, and the amount seems to be determined by the distensibility of the surrounding tissues. When the tumor is ruptured soon after its formation, the hemorrhage may be uncontrollable and unlimited.

* Bull. Med. Belge, vol. i. p. 90.

† Heidelburger Klinische Ann. vol. x. pp. 417-31.

‡ Kleinert's Repertorium, May, 1835, p. 31.

§ Journ. de Med. et de Chir. prat. Oct. 1835.

‖ Edin. Med. and Surg. Journ. vol. xiv. p. 107.

The aspect of the disease is very alarming; the size of the tumor, often as large as a child's head, its red or purple color, and the agonizing pain, together with its occurrence at a time when all appears to be going on favorably, or to have happily terminated, are calculated to produce a fearful impression.

612. *Causes.*—There can be no question that the effusion arises from the rupture of some vessel, by the pressure of the child's head during its passage through the pelvis; but there is some doubt from what vessels the blood escapes. The quantity is so great, that it has been supposed impossible that it could proceed from the vessels supplying the part, which are ordinarily small; but it must be recollected, as previously stated, that these vessels are often in a varicose state during pregnancy.

Dr. Burns supposes some of the vessels in the nymphæ to be ruptured; Dr. Dewees, that the vessels of the vagina give way;* and Drs. Davis† and Campbell,‡ the pudic vein.

Mr. Crosse, in his address, regards the tumors as the result of a rupture of vaginal varices, nor can we deny that this is possible. That

* "I am of opinion that the blood proceeds from vessels situated rather within the vagina; for those which come from the vaginal plexus, immediately behind the corpus spongiosum, are the most likely to suffer during the passage of the child's head, and to furnish this large quantity of blood. And this opinion appears to be strengthened by cases in which the accident happens before the delivery of the child; as the part just mentioned will suffer distension before the head has escaped through the os externum."—*Dewees' Diseases of Females*, p. 34.

† "The sudden intumescence of the labia, from the accumulation of extravasated blood during labor, of which there are recorded some interesting examples, are probably in many cases indebted for their predisponent cause to a varicose condition of the veins, acquired during pregnancy; or, as perhaps more frequently happens, to the same condition of the various branches communicating with them. The more distended portion of those structures, having their tunics enfeebled in proportion to their distension during pregnancy, are obviously not a little exposed to the danger of a solution of their continuity, when they become the subjects of a still greater distension, which they can scarcely fail to do during labor of great severity. The vessels which more frequently give way in the extravasations here referred to, are probably portions of the pudic vein."—*Davis's Obstetric Medicine*, vol. i. p. 46.

‡ "The source of effusion must be the pudic vein, ruptured possibly by premature distension of the part. In from three to seven hours the labium gives way on its inner surface, when a quantity of coagula are discharged, and cicatrization speedily takes place."—*Campbell's Midwifery*, p. 328.

the veins of the labia, the parts about the orifice of the vagina, and the vaginal canal, do become varicose, and occasion considerable inconvenience, every one knows; but the frequency of this condition, compared with the rarity of the sanguineous tumors, is rather an argument against the dependence of the latter upon the former.

613. *Symptoms.*—There is nothing in the character of the labor to excite alarm; the cases have almost always occurred with natural labors.

The patient's attention is first attracted by the swelling of the labia, and the feeling of weight and bearing down. If we examine at this period, we shall find one or both of the labia irregularly distended; and if the tumefaction be great, the labium is everted, so that it appears to be covered externally by the mucous membrane.* This has occasioned its being mistaken for the protruding membranes. The color is livid, almost black, and the parts are extremely tender. The tumefaction increases rapidly, until it covers the vulva and perineum, utterly distorting their natural aspect.

In all the cases on record the pain appears to have been excessive, augmenting with the increase of the tumor,† until relief is obtained by its rupture; and if this be long deferred, the constitution sympathises and a considerable degree of fever is excited, the pulse becomes quick, the skin hot, there is severe pain in the head, and delirium. The distress is often increased by the retention of urine, from the swollen labium pressing upon the orifice of the urethra.

The patient lies on her back, scarcely able to move, and with the thighs widely separated. She cannot bear even the weight of the bedclothes. Dr. Dewees observes: "Should the parts not give way, the pain arising from distension is unceasing and truly agonizing; fever of a very active kind is quickly kindled; delirium sometimes attends, and the woman's life becomes severely threatened. Her sufferings are also augmented by the retention of urine, as its passage is prevented by the tumor pressing firmly against the meatus externus of the urethra. The patient can lie only upon her back, with her knees drawn up, and the thighs widely separated. She cannot bear the pressure of the bed-clothes, nor the lightest applications; therefore, it is in vain to offer relief till the distended parts yield spontaneously, or are made to do so by artificial means."‡

* "Owing to the unequal density of the external covering and internal face of the labium, it becomes irregularly distended; and scarcely anything is seen but its excessively stretched internal surface."—*Dewees' Diseases of Females*, p. 34.

† "In this disease of the *labia magna* in time of labor, we find in general that the swelling gradually increases to such a degree as to give excessive pain; and at length, when the tumor bursts, the pain immediately abates."—*Perfect's Cases*, vol. ii. p. 70.

‡ Diseases of Females, p. 38.

After the lapse of a few hours, relief from the agony is obtained by the rupture of the labium which always takes place on its inner surface, and the discharge of blood. The mucous membrane is observed to vesicate, and then to become gangrenous, after which it yields to the pressure. A portion of the blood escapes; but some coagula remain attached, and as these soon putrefy, the wound becomes very offensive. By degrees, however, it is thrown off, or absorbed, and the wound heals.*

This rupture sometimes takes place during the labor, and before there has been time for these changes to take place; and in such cases the loss may be considerable, or even fatal. Dr. Macbride's cases both recovered; and in accordance with this favourable result and his own experience, Dr. Denman concludes that the complaint is "void of danger," and others have expressed a similar opinion. No doubt, a great majority do recover; but still there is a sufficient number of fatal cases on record, to justify our regarding the accident as a serious one. M. Phillipart mentions a case in which the left labium became greatly swollen during labor, and ruptured, with an amount of hemorrhage, that proved fatal before delivery.† Of Naegele, jun.'s four cases, one proved fatal; "in a second, the swollen labium burst, the coagulum was removed, delivery of a dead child effected by the forceps;

* "The internal lining of the labium gives way sometimes from the excessive distension it has been made to suffer; this permits a quantity of fluid blood or a few coagula to escape, which tends very much to diminish the extreme anguish of the patient. In all cases of this kind, much pain is endured, and in some cases it has been so severe as to cause syncope; a case of this kind is related by Dr. Reeve, in the 9th volume of the *London Medical Journal.* Sometimes the tumor bursts before the child is born. Dr. Perfect relates a case of this kind, and the first case related below may be considered a similar instance. But if this bursting does not take place, as sometimes happens when the size of the tumor is not enormous, the internal face of the labium is sure to yield in a short time, from gangrene taking place through its whole extent. This condition has been preceded, in two of the cases I have witnessed, by innumerable vesications, containing a yellowish serum, spreading themselves over the whole surface of the tumor, formed by the stretching of the internal membrane of this part, but which, very soon after the swelling has acquired a considerable size, yields from the loss of life; and the patient in consequence feels considerable relief. When the part sloughs, it exposes a large surface of coagulated blood, which quickly becomes decomposed, and yields a stench that is altogether intolerable."—*Dewees' Diseases of Females,* p. 35.

† Bull. Med. Belge, vol. i. p. 90.

in a third, the labium burst while the forceps were being applied, the blood lost appeared arterial, pressure for three hours, then delivery of a dead child with the forceps, recovery; in a fourth case, ten ounces of blood were removed from the labium by an incision, and labor was afterwards completed with safety to the mother and child."*

M. Stendel relates a case in which the tumor burst during labor, and he states that between six and seven pounds of blood were lost; the patient fainted, and expired.

Three fatal cases are given in the *Med. Chir. Review*, and Mr. Crosse, of Norwich, met with one in which, "during a protracted labor, rupture of the left labium took place to the extent of two or three inches, followed by great loss of blood, and the patient died undelivered."

From these examples it is evident that the danger of a fatal hemorrhage is greatest in those cases where the tumor gives way during labor; next, in those which, occurring during labor, do nevertheless permit its completion without rupture; and least, in those where the tumor does not form until after delivery. This is very intelligible, if we recollect that if the blood be allowed time to coagulate, it will act as a plug or pad upon the bleeding vessels, preventing the escape of more blood until they are closed.

When the distension is very great, and occurs before the birth of the child, it may prove a serious, or even insurmountable obstacle to its completion, and require instrumental interference both for the safety of mother and child.

614. *Diagnosis.*—The tumor has been mistaken for—1, *hernia;* but the rapidity of its formation, its size, and its appearance are so different, that a careful examination will at once decide the point.

2. It is said to resemble the "*bag of waters;*" and in Dr. Maitland's case it was punctured by the midwife under this supposition; but the bag of the waters can be isolated from the labia, and traced up to the os uteri, rendering the distinction easy. Moreover, in many cases the sanguineous tumefaction does not occur till after delivery.

615. *Treatment.*—In considering the plans of treatment, we must classify the cases into—1, those in which the tumor appears in the progress of labor, and before delivery; and 2, those in which it occurs subsequent to the birth of the child.

I. In the first class of cases the choice is between leaving the case to nature, taking chance of the tumor bursting or not; and opening the tumor, applying pressure and styptics, and completing the delivery by the forceps if necessary.

The danger of trusting the case to nature is, that if the tumor be large, it may either give way with great hemorrhage, or it may offer

* Sydenham Society's Publication for 1849, on Dis. of Women, p. 520.

such an obstacle to the exit of the child, that it will be necessary to use instrumental aid in delivery, and so increase the probabilities of laceration. If, however, the tumor be small, it is possible that labor may terminate naturally, without rupture of the tumor.

The danger of opening the tumor before coagulation has taken place consists of course in the hemorrhage, which we may or may not be able to control, with an equal probability of our being obliged to have recourse to instrumental delivery.

Between these two courses it is difficult to prescribe an absolute choice: much must depend upon the peculiarities of each individual case, and the decision must be left to the judgment of the practitioner. Speaking very generally, however, I think I may say thus much, viz., that in cases where the tumor is of moderate size, and does not offer a serious obstruction to delivery, it will be better to wait, and not lay open the tumor. In Dr. Maitland's case, an opening occurred, (or was made by the midwife) at the beginning of labor; the tumor was as large as a child's head, notwithstanding the draining of blood, and the child was delivered naturally thirty-six hours afterwards. There was an opening also in the case related by Mr. Perfect, and although the tumor was large at first, yet it diminished without alarming hemorrhage, and the child was expelled. So that even if the tumor do give way, yet delivery may take place safely and naturally. Dr. Maitland applied fomentations of infusion of camomile, and warm cloths, alternately; and Mr. Perfect's friend, a poultice of bread and milk softened with ung. sambuci. In neither case was the opening intentional; and in both, although much time elapsed after the rupture, before the completion of labor, the recovery was favorable and speedy.

If the tumor, however, be very large, the child will not be able to escape naturally, nor, in all probability, shall we be able to deliver with the forceps without laceration; in such cases, which however are very rare, it will be better to lay open the tumor, plug the cavity with lint or charpie steeped in some styptic, and applying pressure in the best way we can, complete the delivery as soon as possible.

The mode of delivery is worth a moment's consideration, if we are obliged to have recourse to instrumental assistance. It appears that when the hemorrhage is extensive, the child's life is compromised; in two out of three of M. Naegele's cases, in which delivery was effected by the forceps, the children were born dead. Now, as we can almost always determine the life or death of the child by means of the stethoscope, and as it is desirable that as little pressure as possible should be made upon the soft parts of the mother in these cases, I think that when the fœtal heart has ceased to be audible, it would be much safer and better to lessen the head, and extract with the crotchet instead of using the forceps.

616. II. When the tumor appears first after the birth of the child, we ought in the first instance to apply fomentations, poultices, or cold

lotions, for the purpose of relieving the pain; but on no account to open the tumor immediately, because the risk of hemorrhage is very great. My friend, Dr. Chas. Johnson, has mentioned to me a case in which the tumor was opened within twelve hours, and notwithstanding that the vagina was plugged, and every means used, it was with great difficulty that the hemorrhage was restrained.

Some time should therefore be allowed to elapse, if the pain be at all bearable, before we make an incision; but inasmuch as an incised wound will heal more favourably than one resulting from mortification of the outer skin, we may anticipate this occurrence with advantage, and after waiting some hours to give time for the coagulation of the blood, or, at any rate, the moment the cuticle vesicates, a free incision should be made into the tumor, and the fluid blood, with such of the coagula as are loose, be allowed to escape.

If the bleeding continue, it will be advisable to apply some styptic inside the cavity, or to fill it with charpie; if there be no fresh bleeding, a poultice may be applied. It is better not to remove the adhering coagula at first, as they are a security against hemorrhage; but after a day or two, a great portion of what remains may be scooped out, and the remainder will gradually soften and come away with the poultices, exhibiting underneath healthy granulations which speedily fill up the cavity. Nothing more will be necessary than constant poultices, sprinkled, if necessary, with a solution of the chloride of lime, and if the granulations be too exuberant, a touch with the nitrate of silver. In no case does there appear to have been any trouble or difficulty in healing the wound, and more than one of the patients were delivered subsequently without a repetition of the accident.*

The diet of the patient should be strictly antiphlogistic, so long as the fever continues: but after suppuration is established, it will be necessary to allow good diet, with wine and tonics.

The bowels should be kept free.

CHAPTER V.

INFLAMMATION OF THE VAGINA.

617. After an ordinary labor, whatever irritation or inflammation of the vagina may arise, speedily subsides, unless the irritation be kept up by an acrid discharge.

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* Sydenham Soc. Vol. on Diseases of Women, p. 522.

But when the second stage of the labor has been tedious, so that the head has remained a long time in the pelvis, pressing upon the soft parts; or when there has been a difficulty, from narrowness of the passage; or lastly, in malpresentations, and in all cases where an operation is required, the vagina is exposed to be attacked by severe inflammation.

618. *Symptoms.*—After the smarting pain caused by the distension of the parts has ceased, the patient complains of heat in the vagina and external parts: this is soon followed by pain and scalding. There is also a sense of fulness and weight in the pelvis. If we make an examination, we shall probably find the external parts swollen, and as it were bruised. On turning aside the labia, and gently dilating the vagina, it will be found thrown into large rugæ of a bright red color, the heat is greatly increased, and the slightest touch gives acute pain. If the red lochia have ceased, we may find the discharge thickened and rendered opaque by a puriform secretion from the vagina, though at an *early* period, as is usual in inflammation of mucous membranes, there is but little discharge.

619. *Terminations.* 1. *In resolution.*—If the disease be detected early, and the proper remedies applied, it may subside quietly, without doing permanent mischief. The decrease of pain and soreness will be an evidence that it is thus terminating.

2. *In suppuration.*—If the inflammation be obstinate, we shall find, after some days, the mucous membrane converted into a sloughing surface. The extent of these sloughs will vary; they may be limited to the spots where the pressure has been most severe, or, as in a case lately under my care, they may involve the whole vagina. An internal examination will detect their extent, and when the sloughs separate, we shall find the canal denuded of mucous membrane in a greater or less degree. In general, the destruction does not penetrate deeply, except at the back of the bladder and the under surface of the urethra; and it is not uncommon to find an opening formed in these parts, which may occasion much trouble and distress. Sometimes, though less frequently, a recto-vaginal fistula is formed.

As the process of healing goes on in the denuded surface of the vagina, extremely troublesome cicatrices frequently form, consisting of irregular bands of firm tissue, disposed across the vagina, or in the form of circular or spiral rings. These cicatrizations diminish the calibre of the vagina, render sexual connexion difficult, painful, or perhaps impossible, and materially impede the progress of labor, should the patient become pregnant subsequently.*

It is only by the greatest care and watchfulness, during the healing of the sloughs, that these unpleasant consequences can be prevented.

* Dr. E. Kennedy on Occlusion of Vagina, &c. *Dublin Journal*, vol xvi. p. 86.

3. *In gangrene.*—If the pressure have been very great, the parts most subject to it may mortify and slough. When these sloughs separate, we may find a vesico-vaginal fistula,* and during the healing, circular cicatrices may form, as already described.† It is very seldom that the rectum is perforated.

620. *Treatment.*—In the inflammatory stage, the remedies must be antiphlogistic, varying in amount according to the intensity of the inflammation. It may be advisable to take some blood away from the arm, or apply leeches to the vulva.

I have found tartar emetic, in combination with a saline purgative, of great use. It should be given so as to nauseate the patient, without producing vomiting.

The external parts should be well fomented two or three times a-day, and during the intervals, a large poultice may be applied over the vulva. Two or three times a-day also, the vagina should be syringed with tepid milk and water, or a weak solution of the acetate of lead; and I would strongly recommend the medical attendant to do this himself, unless he can *perfectly* depend upon the nurse.

After the sloughs have separated, a careful examination should be made every second day, to ascertain the progress of healing; and when the surfaces begin to be covered with new membrane, we must take measures for preventing the formation of cicatrices. This can only be done by the repeated introduction of bougies, and the best kind are tallow or wax candles. At first a small-sized one should be oiled and introduced, night and morning, and allowed to remain a quarter of an hour. Afterwards, as the tenderness diminishes, the size of the candle should be increased, and it should be introduced oftener and retained longer. The warm injections should be continued, and the milk and

* "If, in consequence of the long pressure of the child's head, at that part of the vagina where its outward surface is attached to the back and under part of the bladder, the mortification affects the coats of the *vesica urinaria*, as well as those of the vagina, when the slough falls off, the urine will pass that way, and hinder the opening (if large) from being closed."—*Smellie's Midwifery*, vol. i. p. 246.

† "If the pressure hath been so great as totally to obstruct the circulating fluids in those parts, a mortification ensues—either total, by which the woman is soon destroyed, or partial, when the mortified parts separate, and cast off in thick sloughs, then digest, and are healed as a common sore—provided the patient be of a good habit of body: but if the opposite parts are also affected in the same manner, and both sides pressed together, as for example in the *uterus*, *os internum*, *vagina*, or *os externum*; or if the internal membrane of the whole inner surface sloughs off, then there is danger of a coalescence, or growing together, by which callosities are formed."—*Smellie's Midwifery*, vol. i. p. 246.

water may be changed for some slightly astringent fluid. If this plan be carefully and steadily pursued, we shall, in most cases, prevent the narrowing of the vagina. In the case under my care already alluded to, the sloughing was most extensive, yet by these means the vagina was healed, with a perfectly smooth surface.

The treatment necessary for the vesico-vaginal or recto-vaginal fistula will be described when speaking of "lacerations."

If the patient be much exhausted, tonics and good diet will be necessary, after the inflammation has been subdued.

CHAPTER VI.

PUERPERAL FEVER.

621. This is the most fatal disease to which puerperal women are liable, and it is by no means unfrequent.

Its phenomena vary very much, and it has consequently been differently described, and under various names, (Puerperal Fever, Childbed Fever, Peritoneal Fever, Low Fever of Childbed, &c.) by different authors.

Another source of apparent contrariety has been the prevalence of the disease epidemically, and the varying characteristics of these epidemics. Unfortunately, the uniformity of the disease was assumed until comparatively recent times; and, as Dr. John Clarke observes, each author erected his own experience into a standard, by which to judge of the descriptions and practice of others.

According to Dr. Hulme's researches, the older writers were not ignorant of this disease. It is described by Hippocrates and Avicenna. Plater (1602) makes it to consist in inflammation of the uterus. Sennert (1656) describes it, and recommends bleeding. Riverius (1674) attributes it to suppression of the lochia, and Sylvius (1674) to deficiency of the lochia. Willis (1682) takes the same view of its nature as Plater.

The earliest English work on midwifery is that of Thomas Raynalde, who, in his *Birth of Mankinde*, 1634, says, "It is also to be understood, that many times after the deliverance, happeneth to women either the fever, or ague, or inflammation of the body; either trembling in the belly, or else commotion or setting out of order of the mother or matrix."

In the *Childbearer's Cabinet*, 1653, we have directions how to help the "wringing and pressings of the belly in childbed women, by outward and inward means, and by drinks." Then, by degrees, each author gives a more definite shape to his account of the disease; and sounder directions for its treatment, most of them regarding the disease as inflammation of the womb, the result of suppressed lochia. I may refer the reader who is desirous of investigating the subject, to the works of Strother (1718), Cooper (1725), Sydenham (1726), Boerhaave (1737), Hoffmann (1734), Mauriceau, Peu, &c. Dr. Hulme states that Strother, in his '*Critikon Febrium*,' is the first writer he has met who gives to the disease the name of puerperal fever.

These details will be sufficient to show that the older authorities were acquainted with the disease in question, that in their practice they met with puerperal fever occurring periodically as we do; but we have no evidence of their having witnessed an epidemic, or that they were aware of the occasional extensive prevalence, and alarming mortality of the disease. The only allusion which may be thus interpreted (so far as my researches extend) is by M. Peu, who states that in 1664 'a prodigious number' of women died at the Hotel Dieu, after their confinements. They were attacked with hemorrhage, and after death the bodies, being examined, were found "full of abscesses." It was attributed to impure air from a ward filled with wounded, which was situated underneath the lying-in ward.*

The first undoubted epidemic fever on record, I believe, is that which prevailed in Paris during the winter of 1746. It was extremely dangerous, attacking the poor, and proving much more fatal to those in hospital than to those who were delivered at their own houses. Of 20 women confined in February of that year in the Hotel Dieu, scarcely one recovered; they died between the fifth and the seventeenth day after their confinements.† M. Malouin has given the following account of this epidemic. "The disease usually commenced with a diarrhœa; the uterus became dry, hard, and painful; it was swollen, and the lochia had not the ordinary course; thus the women experienced pain in the bowels, particularly in the situation of the broad ligaments; the abdomen was tense, and to all these symptoms were joined pain of the head, and sometimes cough. On the third or fourth day after delivery, the mammæ became flaccid. On opening the bodies, curdled milk was found on the surface of the intestines, a milky serous fluid in the hypogastrium; a similar fluid was found in the thorax of certain women, and when the lungs were divided, they discharged a milky or putrid lymph. The stomach, the intestines, and the uterus, when carefully examined, appeared to have been inflamed. According to

* Pract. des Accouch. p. 268.
† Mem. de l'Acad. des Sciences, 1746.

the report of the physicians, there escaped clots on opening the vessels of this organ."*

Subsequent epidemics have been described by Pouteau, White, Joseph Clarke, Hulme, Leake, Denman, Butter, Kirkland, W. Hunter, Storck, Young, Tenon, Gordon, John Clarke, Douglass, Gooch, Hey, Labatt, Collins, Biermayer, Campbell, Ingleby, Lee, Fergusson, Tonnellè, Duplay, Ceely, Beatty, Voillemier, M'Clintock, &c. But for a greater detail of these epidemics, I must refer my readers to the Introduction to a volume on Diseases of Women, which I had the honor of editing for the Sydenham Society, which consists chiefly of reprints of the best monographs on puerperal fever. It will be sufficient here to give a list of the principal epidemics.

YEAR.	LOCALITY.	LOCAL DISEASE.
1664	Paris	Uterine Phlebitis.
1746	Paris	Peritonitis, Hysteritis.
1750	Paris, Lyons	Peritonitis, Hysteritis, Uterine Phlebitis.
1760	London, Aberdeen ...	Peritonitis, Inflammation of Omentum.
1761	London, Aberdeen ...	" "
1765	Derbyshire.	
1767	Dublin	Peritonitis.
1769	London.	
1770	London, Vienna	Peritonitis.
1771	London.	"
1773	Edinburgh.	
1774	Paris, Dublin	Peritonitis.
1775	Paris, London, Derbyshire	Peritonitis.
1780	Paris	Peritonitis.
1781	Paris	Peritonitis.
1782	Paris	Peritonitis, Hysteritis.
1783	London	Peritonitis.
1785	Vienna	Peritonitis, Hysteritis, Gangrene.
1786	Paris.	
1787	London, Dublin	Peritonitis, Hysteritis.
1788	London, Dublin	Peritonitis, Hysteritis.
1789	Aberdeen	Peritonitis.
1790	Aberdeen	Peritonitis.

* Lee, on the Most Important Diseases of Women, p. 6.

YEAR.	LOCALITY.	LOCAL DISEASE.
1791	Aberdeen	Peritonitis.
1792	Aberdeen	Peritonitis.
1795	Vienna	Peritonitis, Uterine Phlebitis.
1803	Dublin	Peritonitis.
1808	Barnsley	Peritonitis.
1809	Leeds	Peritonitis.
1810	Leeds, Dublin	Peritonitis.
1811	Heidelberg.	
1812	Leeds, London	Peritonitis.
1813	Dublin, Sunderland, Holloway	Peritonitis.
1814	Edinburgh, London.	
1815	Edinburgh.	
1816	Paris	Peritonitis, Hysteritis, Uterine Phlebitis.
1817	Pennsylvania, U. S. ...	Peritonitis.
1818	Pennsylvania, Dublin ...	Peritonitis.
1819	Dublin, Vienna, Paris, Glasgow, Sterling	Peritonitis.
1820	Dublin, London, Paris, Glasgow, Sterling	Peritonitis.
1821	Edinburgh, Glasgow, Sterling.	
1822	Edinburgh, Glasgow, Sterling.	
1823	Dublin	Peritonitis.
1824	London	Peritonitis.
1825	London	Peritonitis.
1826	Dublin, Birmingham ...	Peritonitis.
1827	London.	
1828	London, Dublin.	
1829	London, Dublin, Paris, Birmingham.	
1830	Paris, Birmingham.	
1831	Aylesbury.	
1833	Vienna, Pennsylvania, Birmingham.	
1834	Vienna, Birmingham.	
1835	London, Birmingham.	
1836	London, Dublin, Birmingham.	

YEAR.	LOCALITY.	LOCAL DISEASE.
1837	Dublin.	
1838	Paris, London.	
1842	Rennes, London.	
1843	Rouen.	
1844	Rouen, Rennes.	
1845	Rouen, Paris, Grätz.	
1846	Rouen.	
	Dublin, Scotland.	

622. From a review of the history of the epidemics of puerperal fever, it appears that there is some remarkable connexion between them and the lying-in hospitals. I do not mean strictly to assert that the epidemics always originate in, and are kept up by these institutions, but I refer to the fact, that we have no record of any epidemic independent of them in early times. The first in France, England, and Ireland, occurred in the Hotel Dieu of the former, and in the lying-in hospitals of the latter countries; and although our earlier writers allude to inflammation of the womb, &c. occurring in child-bed, they make no mention of its prevailing extensively or as an epidemic. No doubt it has since been observed in private practice in London, Edinburgh, Dublin, Leeds, &c. but its extent in these cases is after all comparatively limited, and it is often chiefly confined to the practice of a few individuals. In Dublin the higher ranks have been singularly free from attacks of the disease. Dr. Joseph Clarke practised for forty-four years in this city, during which time he attended 3847 cases of midwifery, and yet in that number he met with only three cases of peritonitis, and three others where disease appears doubtful, but which may probably have been uterine phlebitis, although during that time puerperal fever was more than once epidemic in the hospital.

623. Perhaps the most universal fact connected with puerperal fever is the presence of local disease. In almost all cases of the epidemic, where an opportunity of ascertaining has been permitted, local lesions of some kind or other have been found, and even when this opportunity was denied, but little doubt existed in the minds of the medical attendants that such existed. It seems very probable that in many cases where the local disease seemed but slight, there would *now* be found very serious and important morbid changes, for we know that a patient may die of inflammation of the uterine veins or lymphatics with very obscure symptoms, and without either enlargement or obvious tenderness of the uterus, and that these morbid lesions may be overlooked, if the examination be hasty or superficial. It is only fair to

state, that Dr. Copland, in an excellent article on puerperal fever, differs from this view. He states, that his experience has "convinced him that a most rapidly fatal, and a most malignant form of puerperal fever, is occasionally developed in lying-in hospitals, which is certainly not characterized by uterine phlebitis, nor by purulent collections in the uterus or its appendages, nor even in some cases by peritonitis, the chief lesions often being merely a remarkable alteration of the blood, general lacerability of the tissues, or loss of their vital cohesion soon after death, with a dirty, muddy, offensive, and sometimes a scanty effusion into the serous cavities."* He adds, however, that such cases are rare.

The local affections in puerperal fever embrace all the usual results of inflammation, and involve all the tissues of the organs of gestation, either separately or together. The most frequent appears to be peritonitis, originating very probably in the outer covering of the uterus, but spreading to the entire serous cavity. We find also inflammation of the muscular tissue of the uterus, with its consequences, abscess, softening, and gangrene, inflammation of the lining membrane, softening, and gangrene; inflammation of the veins and lymphatics with the secondary affections thence arising; inflammation and purulent deposits in different organs, muscles, and joints; and inflammation of the ovaries, with its results.

624. I repeat my conviction, that there are few if any cases of puerperal fever without local disease of the organs employed in parturition, or of the neighbouring tissues; but are we therefore justified in asserting that puerperal fever is simply a local affection? Can we agree with Dr. Robert Lee, that his "observations are therefore subversive of the general opinion now prevalent, that there is a specific, essential, or idiopathic fever, which attacks puerperal women, and which may arise independently of any local affection in the uterine organs, and even prove fatal without any change in the organization of their different textures? As the constitutional symptoms thus appear to derive their origin from a local cause, it would certainly be more philosophical, and more consistent with the principles of nosological arrangement, to banish entirely from medical nomenclature the terms puerperal or child-bed fever, and substitute that of uterine inflammation, or inflammation of the uterus and its appendages in puerperal women."†

In the former editions of this work, I adopted Dr. Lee's views, and employed his arrangement; and whilst I confess my own obligations to his able researches, and agree with him in the presence of local lesions, I am bound to state honestly, that more extended experience has led me to believe that the malignant puerperal fever is something more than a local affection, that the constitutional disease is rather

* Dict. of Pract. Med. part xiii. p. 500.
† Researches, p. 3.

primary than secondary. At the same time I am quite sure that in many sporadic cases Dr. Lee's views are correct.

What, then, is the nature of the malignant epidemic puerperal fever? This is a question very difficult of solution, and has given rise to very opposite opinions. It has been regarded as

Inflammation of the Uterus, by

Hippocrates,	Mauriceau,
Galen,	La Motte,
Celsus,	Sydenham,
Ætius,	Boerhaave,
Paulus Avicenna,	Van Swieten,
Raynalde,	Hoffmann,
F. Plater,	Jussieu,
Sennert,	Villars,
Riverius,	Astruc,
Sylvius,	Pouteau.
Strother,	Denman.

Inflammation of the Omentum and Intestines, by

Hulme,
Leake,
La Roche.

Peritonitis, by

Waller,	Capuron,
Johnston,	Gordon,
Forster,	Hey,
Cruikshank,	Armstrong,
Bichat,	Clarke,
Pinel,	Campbell,
Gardien,	Collins.

Peritonitis, connected with Erysipelas, or of an Erysipelatous character, by

Pouteau,	Gordon,
Home,	Armstrong,
Lowder,	Hey,
Young,	Campbell.
Abercrombie,	

Fever of a peculiar nature, by

Willis,	Doublet,
Puzos,	Hamilton.
Levret,	

Disorder of a putrid character, by

Peu,	Le Roi,
Tissot,	White.

Disease of a complicated nature, by

Petit,	Tenon,
Sellè,	Tounelle,
Kirkland,	Lee,
Walsh,	Ferguson.

Fever, with Biliary disorder, by

Finch,
Stoll,
Doulcet.

Then look at the peculiar characteristics of different epidemics, and see how varied they are. In one, the lochia are suppressed: in another, they are profuse; and in a third, unaltered. Diarrhœa is common in one epidemic, constipation in another; typhoid symptoms in one, ordinary fever in another.

And as to the effects of remedies, we find even a greater diversity: one very high authority recommends saline purgatives; another loses all his patients, until he bleeds largely at the commencement; another loses all who are so bled. Calomel is the universal remedy in one epidemic, opium in another, purgatives in a third, unctions in a fourth, turpentine in a fifth, &c.

Lastly, let any one compare a case of simple inflammation of the womb or peritoneum in child-bed, with a case of epidemic puerperal fever, their symptoms, course, and the effects of remedies, and I do not think a doubt will remain upon the mind, that although the latter is a local disease, it is not exclusively so.

625. I should wish to speak very cautiously and guardedly on so difficult a subject, but upon the whole I am inclined to think that the essential difference between the epidemic puerperal fever and simple inflammation, may consist in a morbid deterioration of the blood in the former; and the following considerations seem to support this view.

1. Puerperal fever prevails most during the winter and spring months, in moist and cold weather, or during alternations of cold and warm moist weather, as the following tables show:

TABLE I.—(*Dr. Gordon's.*)

	Cases of Puerperal.		Cases of Puerperal.
October	13	April	6
November	8	May	6
December	12	June	0
January	0	July	0
February	8	August	5
March	6	September	5

TABLE II.—(*Dr. Campbell's.*)

		Cases of Puerperal.			Cases of Puerperal.
1821	March	1	1822	January	7
—	April	7	—	February	6
—	May	2	—	March	5
—	June	2	—	April	4
—	July	3	—	May	4
—	August	1	—	June	3
—	September	1	—	July	2
—	October	7	—	August	1
—	November	13	—	September	3
—	December	11	—	October	2

TABLE III.—(*Dr. Ferguson's.*)

	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836	1837	1838	Total.
January..	..	2	3	3	..	2	..	..	2	4	3	9	34
February*	..	2	7	..	..	..	..	..	2	6	..	..	17
March ..	1	..	3	2	..	..	2	..	..	6	..	8	22
April† ..	3	..	1	1	4	1	1	3	2	6	3	9	34
May	4	4	..	..	1	..	2	..	5	2	2	..	20
June	..	3	..	..	..	1	2	..	6	4	..	..	16
July	..	3	..	..	..	2	..	..	..	..	..	..	5
August ..	..	3	1	..	..	..	..	..	..	..	..	..	4
September	2	8	..	..	..	..	1	..	..	..	1	..	12
October ..	..	4	6	..	..	2	..	..	5	..	..	..	11
November	..	..	..	1	2	..	..	4	2	..	..	..	9
December	..	5	3	.	2	..	1	2	2	3	..	..	21
Attacked	10	37	24	7	9	8	9	9	26	31	9	26	205
Died	1	7	6	2	2	5	3	5	10	9	2	20	68

* Hospital closed February, 1838

† Closed from April to November, 1838.

TABLE IV.—(*M. Dugès, Journ. Hebdom. de Medicine.*)

		Cases.			Cases.
1819	January	81	1819	July	40
—	February	82	—	August	40
—	March	65	—	September	53
—	April	47	—	October	69
—	May	67	—	November	74
—	June	35	—	December	63

TABLE V.—(*Delaroche, of Geneva.*)

	Cases		Cases.
January	77	July	37
February	43	August	36
March	76	September	51
April	55	October	51
May	35	November	66
June	40	December	61

Thus, the most injurious months in Aberdeen were October, December, November; in Edinburgh, November, December, January; in London, January, March, February, December, May; in Paris, November, October, Feoruary; in Geneva, January, March, February.

"In general, the cold months are most fatal. No death has occurred in the month of July in the General Lying-in Hospital. The most favorable month in Paris and Geneva is June; and August in Scotland, where the summer is about three weeks later than in England. Hence, we may say that the warm months are beneficial."*

626. Now the diseases most frequently concurrent with puerperal fevers are typhus fever and erysipelas, the prevalence of which, especially the latter, is always ominous of impending puerperal. Some have gone a step farther, and expressed their belief of those diseases being so far identical, as that infection from either typhus or erysipelas may give rise to puerperal fever. Dr. Labatt mentioned to me his conviction, that he had seen a patient, brought into the lying-in hospital with typhus fever, cause puerperal fever in other patients in the same ward; and other evidence of the same kind is on record. Mr. Nunnelly, who has written an able work on erysipelas, considers it and puerperal fever to be identical, prevailing during the same atmospheric conditions, exhibiting often the same general symptoms, and capable of reproducing each the other.

Dr. Hutchinson and others have seen both diseases in the same

* Ferguson, on Puerperal Fever, p. 278, *note*.

patient, and I have noticed that the infants of women attacked by puerperal fever are very liable to erysipelas, or diffuse inflammation.

I am not about to enter upon the question of the identity of puerperal fever with erysipelas, but merely to point out the great probability that an essential feature of the latter disease is depravation of the blood. Mr. Nunnelly says, "it is highly probable, if not certain, that there is some change produced in the state of the blood, which change may depend upon alterations we are unable at present to appreciate, but which it is likely occur in many tissues, and may thus affect the mass of blood more or less quickly, and to a greater or less extent, according to the influence they have upon, and the connexion they have with the blood in a state of health.*

As regards typhus fever, I believe no doubt at present exists that the state of the blood is much deteriorated, and that this constitutes a very important, if not the most essential part of the disease.

As bearing upon the present question, I shall quote the following passage from Dr. Ormerod: "Besides the sudden increase under such circumstances of the number of patients suffering from fever, there is observed in all epidemics, from the plague of Athens downwards, a tendency of all diseases to assume, as far as may be, the epidemic type. Much, probably, of this is explicable on the supposition of the existence of the same atmospheric condition affecting all who cannot resist it in the same way; but however this may be, as far as general impressions, in the absence of notes, will justify the assertion, simultaneous with the occurrence of some cases of fever in the medical wards, phlebitis and troublesome sores are more commonly met with in the surgical wards of this hospital, and erysipelas of the head and face in both."† I shall content myself with referring to these authors only, although much additional evidence to the same effect might be adduced.

627. So far, then, we find that the same seasons give rise to erysipelas, typhus fever, and puerperal fever; that they prevail epidemically at the same time, and as an epidemic, take on the same type, and appear capable the one of giving rise to the other, or of coexisting. In the two former, there is no doubt of the deteriorated condition of the blood, and it is highly probable that to this the typhoid character is owing. Is it very improbable that the same may be the case in puerperal fever; that its malignancy may be owing to a diseased condition of the blood, however produced, in addition to the ordinary local organic disease?

Unfortunately we have but little evidence of the condition of the blood in puerperal fever. Dr. Arnott's researches have disproved John Hunter's opinion, that phlebitis destroyed life by an extension of the inflammation to the heart, and with other investigations have shown

* On Erysipelas, p. 72.

† Ormerod, on Continued Fever, p. 168.

that it is owing probably to deterioration of the blood. M. Bouillaud, in 1825, attributed the typhoid symptoms in phlebitis to a mixture of pus with the blood, and he adduces the experiments of Baglivi, Majendie, and Gaspard, as confirming his opinion, they having produced analogous results by the injection of the putrid matter into the system. We know from the observations of Dance, Tonnellè, Duplay, Lee, and many others, that pus is found in the uterine veins in considerable quantity, in some forms of puerperal fever, and we find that the symptoms described as characteristic of irritative phlebitis, are very like those of puerperal fever.

Mr. Moore says, that he "has seen a black precipitate in the blood of a person laboring under the adynamic form of the disease. Such a deposit is often found in typhus, and in the last stage of infectious erysipelas and phlebitis. Another similarity between the blood in this affection, and in other diseases of a typhoid and malignant character, is the peculiarly offensive odour occasionally arising from it."*

In the epidemic which occurred in 1845 in Paris, and which presented the symptoms of low typhus, MM. Bidault and Arnauld state that the blood was dark and semi-coagulated as in low typhus fever.† And in the epidemic which occurred at Gratz in the same year, Dr. Schoeller mentions‡ that the blood was very fluid, and exhaled a peculiar odour like that of the bat; in other respects it resembled that fluid in persons poisoned by prussic acid.

Dr. Scanzoni has recently maintained that the special causes of puerperal fever originate in the altered condition of the blood, and mainly in the presence of pus.§

In a case of puerperal peritonitis, on the evening of the second day, Dr. Simon found that the blood formed a tolerably firm clot, and was covered with a buffy coat of an inch and a half thick; the chemical analysis furnished nearly the same results to those described by Andral and Gavarret, which I shall quote from Dr. Copland.

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* On Puerperal Fever, p. 183.
† Gazette Medicale, Aug. 1845.
‡ Ranking's Abstract, vol. iv. p. 314.
§ Ranking's Abstract, vol. vii. p. 335.

Venæsections.	Water.	Solid Residue.	Fibrin.	Blood Corpuscles.	Solid Residue of Serum.
1st Case............ 1	787·2	212·8	5·5	122·8	84·5
2nd Case 1	822·9	177·1	5·4	88·3	83·4
2nd Case 2	831·6	168·4	5·3	73·6	89·5
2nd Case 3	851·0	149·0	3·6	60·5	84·9
3rd Case 1	786·4	213·6	7·2	117·0	89·4
4th Case........ 1	789·4	210·6	3·8	120·0	86·8
4th Case........ 2	802·7	197·3	4·7	109·5	83·1
4th Case........ 3	813·5	186·5	6·1	100·3	80·1
Healthy blood.........	790·0	210·0	3·0	127·0	80·0

In cases of metro-peritonitis, quoted by Dr. Day from the analysis of Sherer, Haller, Becquerel, and Rodier, the blood presented a similar increase of fibrin, and a much greater diminution of blood corpuscles.

Dr. Copland states that he is not acquainted with any analysis of the blood in the most malignant form of puerperal fever, unless that which Dr. Day adduces from Haller, who states that the blood was of a very dark brown color. The clot was dark, of a loose consistence, and covered by a buffy coat, over which was a delicate membrane, which presented under the microscope a finely granulated appearance and fat vesicles. The serum was turbid, but after standing for some time it became clear; its reaction was alkaline; its specific gravity 1025. The fibrin was 5·16, the blood corpuscles 77·52. According to Becquerel and Rodier, the cholesterum and phosphates are increased.

I admit frankly, that the evidence I have adduced is quite insufficient to prove that depravation of the blood is the essential element in malignant epidemic puerperal fever; more extensive and careful researches are necessary, doubtless; but without coming to any hasty conclusion on this difficult subject, I do think I have shown some grounds for believing it possible that the general element which constitutes the difference between this form of puerperal fever and simple inflammation of the uterus and peritoneum, may be some deterioration of the blood, depending either upon atmospheric malaria from without, or absorption of some noxious matter generated within the body.

At all events, I cannot but agree with Mr. Moore, that "in puer-

peral fever, or typhus, cholera, and other epidemic and contagious diseases belonging to the class *neuroses*, there is, besides that of inflammatory action, another element, unknown, but which has an essential influence upon the inter-current phlegmasiæ arising in their course, and which may yield at one point only to appear at another."*

628. Various are the *causes* assigned by different authors for the production of this disease.

"We also find fever after parturition ascribed to difficult labor;† to inflammation of the uterus;‡ to accumulation of noxious humors, set in motion by labor;§ to violent mental emotion, stimulants and obstructed perspiration;‖ to miasmata; admission of cold air to the body, and into the uterus; to hurried circulation; to suppression of lacteal secretion; diarrhœa;¶ liability to putrid contagion, from changes in the humors during pregnancy;** hasty separation of the placenta; binding the abdomen too tight;†† sedentary employment; stimulating, or spare diet; fashionable dissipation; retained portions of placenta; floodings, from non-contraction, according to one;‡‡ from violence, but not from non-contraction, according to another;§§ to inflammation of the intestines and omentum; from the pressure of the gravid uterus against them;‖‖ to atmospheric distemperament; to internal erisipelas; metritis, phlebitis; and to contagion of a specific kind. It will be seen that some of the symptoms of the malady are mistaken for causes."¶¶

We cannot regard difficult labor as a frequent cause,*** though the

* On Puerperal Fever, p. 126.

† Of 114 cases in the Dublin Lying-in-Hospital, in 1819 and 20, 68 were first labors; but they were not remarkable.

‡ F. Plateri Praxis Med. 1686, vol. ii. ch. 12. Hoffmann, 1734, vol. iv. part 1. sec. ii. ch. 10. Burton, 1751, Essay on Midwifery, part 4. Smellie, Tissot, Kirkland, p. 58. Denman. Broussais, prop. 313, &c.

§ Sennerti Opera, vol. iii. part. 2. Celsus, B. ii. ch. 5.

‖ T. Cooper, 1766, Comp. of Midwifery, part iii. sec. 3. Dr. Leake, vol. ii. part 33.

¶ R. W. Johnson, 1769, New System of Midwifery, part iv. ch. 7.

** J. Millar, 1770, Obs. of Prevailing Diseases, part iii. ch. 2.

†† H. Manning, 1771, on Female Diseases, ch. xx.

‡‡ Mr. Hey.

§§ Dr. Armstrong, p. 48.

‖‖ Dr. Hulme, p. 147.

¶¶ Moore, on Puerperal Fever, p. 113.

*** "Most of our patients attacked in the year 1717, were admitted in a weakly state, or had tedious and fatiguing labors. Four of those who died were cases of first children."—*Dr. Jos. Clarke's Essay, Med. Comm.* 1791, p. 311.

condition in which the woman is left will undoubtedly render her more obnoxious to the epidemic. Mental emotion is undoubtedly an efficient predisposing cause. Under its influence, females are peculiarly exposed to puerperal fever, and are rendered less able to bear it.§ Several of the worst cases I have ever seen were evidently attributable to this cause. Cold may be fairly admitted into this list. Whether portions of placenta remaining in the uterus give rise to this disease is as yet doubtful; I am inclined to think they may, but it is difficult to decide between the conflicting evidence.

Irritation of the intestines may certainly be propagated to the neighbouring tissues, and under the influence of an epidemic, may originate puerperal fever.

That hemorrhage during or after labor does not prevent puerperal

"It did not seem to depend upon difficulty of labor, for in most of the women in whom it occurred parturition was remarkably easy, and the placenta was separated after a proper interval, and without more than usual pain. Nor was the lochial discharge, *before* the attack, in any way apparently affected."—*Armstrong, on Puerperal Fever*, p. 2.

"*Forty-four* of the eighty-eight cases of puerperal fever occurred in women who had given birth to *first* children; *sixteen* with second children; *nine* with third; *six* with fourth; *seven* of fifth; *two* with seventh: and *four* with eighth children. *Thirty* of the forty-four women delivered of first children, died. Fifty-four of the eighty-eight gave birth to male children." "Of eighty-eight cases, *seventy-one* were delivered within twelve hours; *eighty* within twenty-four hours; *one* was an arm presentation; the length of labor in three instances was not noted."—*Collins, Pract. Treat.* p. 384.

§ "The unmarried are most subject to this fever."—*Home, Chir. Exp.* p. 83.

"Women of delicate constitutions, who are very susceptible, and continually agitated by hopes and fears, are, of all others, the most subject to it, and recover with the greatest difficulty; consequently, unmarried females, for obvious reasons, are very apt to be seized with it."—*Leake*, p. 40. "Unfortunate single women are much oftener seized with it than the married."—*John Clarke*, p. 145. "It is well known that unmarried women do not recover so well as married ones; the mental irritation necessarily attendant upon their situation considerably increasing the febrile excitement, rendering them extremely restless, and thus augmenting the danger."—*Armstrong*, p. 37. "In the present epidemic, we had the most satisfactory proof of the influence of mental agitation in producing or aggravating the disease; for of eight women who had been delivered of natural children, and were afterwards seized with this disorder, only two out of this number recovered."—*Campbell's Midwifery*, p. 211.

fever, there is abundant proof; but that it renders the patient more liable to it, may be questioned.

To a considerable extent, as we have seen, atmospheric influence has a control over the disease; in damp, moist weather, it is much more prevalent, and less so, in warm dry weather.

Whatever that which we call epidemic influence may be, there can be no doubt that to it the majority of cases are attributable, especially the worst and most fatal.

629. Another very important question remains, viz., that of infection and contagion, and the opinions of very eminent men differ as usual. Drs. Hulme, Hey, Armstrong, Dewees, Davis, Tonnellé, &c. deny its contagiousness · Drs. Gordon, Young, Mr. Ceely, Drs. Ramsbotham, Rigby, Lee, Copland, &c. affirm it.*

In all cases where a disease is epidemic, it is, and must ever be, a difficult matter to decide as to the extent of its infectiousness, because, in order to be exposed to either contagion or infection, a person must also necessarily be placed in a situation favourable to its communication as an epidemic. After a careful examination, however, I cannot doubt that the balance of evidence is in favor of puerperal fever being infectious and contagious; *i. e.* that it may be communicated from a patient labouring under it to another who is in contact or close neighbourhood with the affected party.

630. This leads me to another very serious consideration to practitioners of midwifery, viz., whether puerperal fever can be conveyed by a third party in health, from a patient labouring under it, to another person in childbed. There are many facts on record which countenance this supposition.

Dr. Gordon traced a number of his cases to contagion, as he believed, carried from a woman labouring under the disease to another either pregnant or recently delivered.† Dr. Gooch mentions that several instances occurred of puerperal fever attacking the patients of one practitioner, whilst those of others were exempt. "One instance of this kind was very remarkable; a general practitioner, in large midwifery practice, lost so many patients from puerperal fever, that he determined to deliver no more for some time, but that his partner should attend in his place. This plan was pursued for one month, during which not a case occurred in their practice. The elder practitioner being then sufficiently recovered, returned to his practice, but the first patient he attended was attacked by the disease, and died."‡

I rather think that this proves too much; for if we conclude that the disease was communicated by this gentleman to the last patient,

* See also Dr. Peddie's Paper, Northern Journ. of Med. Jan. 1846. Ranking, vol. iv. p. 315; vol. v. p. 293.

† On the Epidemic Puerperal Fever of Aberdeen, p. 63.

‡ On the More Important Diseases of Women, p. 75.

we must admit that the clothes or person may retain the contagion for a month, and I scarcely think that this would be maintained

In Sunderland, forty out of fifty-three cases occurred in the practice of one surgeon and his assistant.

Mr. Roberton, of Manchester, states, that between the 3rd of December, 1830, and the 4th of January, 1831, a midwife attended thirty patients of a public charity, sixteen of whom had puerperal fever, and all died. Other midwives of the same institution attended 380 women during the same time, and none suffered from it. He also mentions the case of a practitioner who introduced the catheter for a poor woman in puerperal fever late one evening, and attended a lady in her confinement during the same night, who was attacked with puerperal fever the second day."*

Dr. Copland, with his usual industry, has adduced many additional facts of a similar nature in the practice of British and American accoucheurs.

"Dr. Pierson, of Salem, U. S. admits this (apparent communication of the disease) to have occurred to himself in several consecutive

Dr. Condie, although not previously a believer in the contagious nature of the malady, "has, nevertheless, become convinced by the facts which have fallen under his notice, that the puerperal fever now prevailing is capable of being conveyed by contagion." Of seven women delivered by Dr. Jackson, in rapid succession, all took the disease, and four died.†

Dr. Peddie and Mr. Beecroft have published some very remarkable cases of the same kind which occurred in their own practice, and they conclude that the virus once generated may be communicated from one lying-in patient to another, either directly or through a third person.

In the Lying-in-Hospital of Vienna, puerperal fever prevailed in those wards where the patients were attended by students, and not in those attended by midwives. This led to an investigation, and Dr. Semelweis came to the conclusion that it was owing to the impregnation of their hands with cadaveric matter through dissecting, making autopsies, &c. He forbad any examination of patients after handling dead bodies until some time had elapsed, and he directed every student to wash his hands in a solution of chlorine prior to and after every examination of living subjects. These precautions were followed by a very remarkable diminution of the numbers of puerperal fever.‡

There is yet another class of cases on record which seem more free from doubt. For example, Dr. Gooch states that "a practitioner opened the body of a women who had died from puerperal fever, and

* Med. Gazette, No. 214, 1831.

† Dict. of Pract. Med. part xiii. p. 506.

‡ Ranking's Abstract, (from Med. Chir. Trans.) vol. ix. p. 335.

continued to wear the same clothes. A lady whom he delivered a few days afterwards was attacked with, and died of the same disease; two more of his lying-in patients, in rapid succession, met with the same fate: struck by the thought that he might have carried the contagion in his clothes, he instantly changed them, and met with no more cases of the kind."

Dr. Campbell, who had maintained the non-contagious nature of the disease in his work, has seen reason to change his opinion, and in a letter to Dr. Robert Lee mentions some facts, showing that a person engaged in dissecting puerperal patients may convey the disease. "In October, 1821, I assisted at the dissection of a woman who had died of the disease, after an abortion of the early months; the pelvic viscera, with the external coats, were removed, and I carried them in my pocket to the class-room. The same evening, without changing my clothes, I attended the delivery of a poor woman in the Cannongate; she died. Next morning I went, with the same clothes, to assist some of my pupils who were engaged with a woman in Bridewell, whom I delivered with the forceps; she died: and of many others who were seized with the disease within a few weeks, three others shared the same fate in succession." "In June, 1823, I assisted some of my pupils at the dissection of an unmarried female, who died of the disease at Canon-mills, after delivery with the forceps. For want of accommodation, I was unable to wash my hands with that care which I ought to have done; on arrival at home, finding that two patients required assistance, I went to them without further ablution of my hands, or changing my clothes, and both of them were seized with the disease, and died."

Dr. Robert Lee and Mr. Roberton mention similar cases, and Dr. Copland quotes the evidence of Drs. Ramsbotham, Blundell, King, Rigby, and Davies, to the same effect, to which I may add the opinion of Drs. Labatt, Collins, &c

The evidence thus brought forward, of which I have given but a slight sketch, is of extreme importance, as showing that the general opinion of the present day is in favour of contagion; and, I fear we must conclude, however reluctantly, in favor not merely of the contagiousness of puerperal fever, but of the probability of the contagion being conveyed to patients by an intermediate party. This adds greatly to the distress of midwifery practice during an epidemic, and ought to impress us with the necessity for the utmost care and caution. At the same time, in estimating the value of the evidence on this subject, some allowance must be made for the fact, that at the time and place these cases occurred puerperal fever was epidemic, and that it is possible that some of the cases may have been due to epidemic influence, and not to contagion. '*Post hoc*' is not necessarily "*propter hoc.*"

In concluding these remarks upon contagion, I cannot resist quoting the admirable advice of Dr. Copland as to the necessary precautions.

"A physician or surgeon engaged in obstetric practice, upon the occurrence of puerperal fever in any of his cases, should either explain the matter to her friends, and call in a physician not engaged in this practice, to whose care she ought to be committed; or he should relinquish the care of puerperal females during his attendance on cases of this form, or even of erisipelas; or he should change all his clothes, and wash his hands, after seeing cases of either of these maladies, before proceeding to a puerperal female."

"An obstetric practitioner should not make an autopsy of a case of puerperal fever, or of erisipelas, or of peritonitis, or of diffusive inflammation of the cellular tissue, or of the disease occasioned by the necroscopic poison; nor even attend, dress, or visit any of such cases, without immediately afterwards observing the precautions just stated, and allowing two or three days to elapse between such attendance and conducting engagements or visits to puerperal females."*

631. In treating of puerperal fever, various arrangements or classifications have been adopted to include the different forms of the disease Thus Dr. Douglas describes three forms—

1. The inflammatory.
2. The gastro-bilious.
3. The epidemic, or contagious, (typhoid).

M. Tonnellè—

1. The inflammatory.
2. The adynamic.
3. The ataxic, (irregular or nervous).

M. Martens—

1. The inflammatory, (where one organ only is affected).
2. The nervous, (beginning with delirium).
3. The putrid.

M. Vigarous—

1. Gastro-bilious.
2. Putrid bilious.
3. Pituitous, (vomiting of pituitous matter).
4. Hysteritis, (phlogistic).
5. Sporadic, (arising from cold).

M. Gardien—

1. Angiotemic fever, strictly inflammatory.
2. Adeno-meningic, slow, insidious fever, slimy tongue.
3. Meningo-gastric, bilious derangement, yellow skin, &c.
4. Adynamic.

* Dict. of Practical Medicine, part xiii. p. 510.

5. Ataxic, or nervous.
6. Fever, with local phlegmasiæ.

Dr. Gooch—

1. Inflammatory.
2. Typhoid.

Dr. Blundell—

1. The mild epidemic, with little peritonitic tendency.
2. Malignant epidemic, with great pain.
3. Sporadic. Peritonitis limited.

Dr. John Clarke—

1. Inflammation of the uterus and ovaria.
2. Inflammation of the peritoneum.
3. Inflammation of the uterus, fallopian tubes, or peritoneum, connected with inflammatory affection of the system.
4. Low fever, connected with affection of the abdomen, which is sometimes epidemic.

Dr. Lee—

1. Inflammation of the uterine peritoneum, and peritoneal sac.
2. Inflammation of the uterine appendages, ovaries, fallopian tubes, and broad ligaments.
3. Inflammation of the mucous, and muscular, or proper tissue of the uterus.
4. Inflammation and suppuration of the absorbents and veins of the uterine organs.

Or, in other words—

1. Inflammatory puerperal fever, dependent on peritonitis.
2. Congestive, dependent on inflammation of the uterine muscular tissue.
3. Typhoid, arising from venous inflammation.

Dr. Ferguson—

1. The peritoneal form.
2. The gastro-enteric.
3. The nervous.
4. The complicated.

Dr. Copland, in the very valuable article in his dictionary, treats—

1. Of the inflammatory states of puerperal fever, or inflammation, *a*, of the uterus; *b*, of the ovaria and tubes; *c*, of the peritoneum; *d*, of any two, or all of them.

2. Synochoid puerperal fever, complicated with inflammation—*a*, of the peritoneum; *b*, of the uterine veins; *c*, of the uterus and appendages.
3. Adynamic or malignant puerperal fever—*a*, simple; *b*, complicated with predominant alteration, (a) of the blood, and (b) of the fluids and peritoneum; (c), of the fluids, serous surfaces, and soft solids generally; (d), of the uterus, or of the uterus and appendages; (e), of the internal surface of the uterine vessels, substance of the uterus, &c.

No doubt, each of these arrangements has its advantages and disadvantages. In the former edition of this work, I treated puerperal fever as a purely local disease, and adopted Dr. Lee's arrangement. Now, although I still believe that we have local disease in all cases of puerperal fever, further experience has satisfied me that there is a large class in which this local affection appears quite secondary, and the general affection, perhaps disorder of the blood, primary. I propose, therefore, to make a slight alteration of my former arrangement, and commence by describing the malignant low epidemic puerperal fever, and afterwards those classes distinguished by the predominance of the local inflammatory affection.

The classification will then stand thus—

1. Low, malignant epidemic puerperal fever.
2. Peritonitis.
3. Hysteritis.
4. Inflammation of uterine appendages.
5. Uterine phlebitis.
6. Inflammation of absorbents.*

* In 222 cases, Tonnellè found—

Peritonitis, in	193
Alterations of uterus and appendages, in	197
Combined lesions of uterus and peritoneum, in...	165
Peritoneum alone affected, in	28
Uterus alone, in	29

In 266 cases, according to Dugès—

Uterus affected	3	cases in	4
Ovaria	1	... in	7
Perforation of stomach	10	... in	266
Inflammation of stomach and intestines...	4	... in	266
Pleuritis (single or double)	40	... in	266
Pericarditis	6	... in	266
Arachnitis	1	... in	266
Purulent deposit in muscles	8	... in	266

I am very far from thinking this arrangement perfect. The great defect of this plan is the coincidence of the diseases, which it places separately; thus, hysteritis and affections of the ovaries, &c., are very often accompanied by peritonitis. Still, however, there is a broad line of distinction between them in many epidemics; and I must only guard against the defective arrangement, by stating strongly at the commencement, that it is not intended to describe the varieties as necessarily and widely distinct, as to symptoms and causes, in every epidemic; and in the course of my description, endeavour to point out the occurrence of the different local affections.

632. 1. LOW MALIGNANT CHILD-BED FEVER.—This form of the disease is comparatively rare, except when the disease prevails epidemically. It may attack the patient before delivery, immediately after, or after some days, and perhaps the most frequent time is at the end of the second or the beginning of the third day. "In the case of a female attacked *before delivery*," Dr. Copland observes, "to which I was called by Mr. Barnwell, the symptoms were the same as those observed by me in other cases. This patient was seized early on the 12th of February with acute pain throughout the abdomen, with enormous distension and exquisite tenderness; with very rapid, full, and soft pulse, varying from 130 to 136, and with frequent vomiting. I saw her in the afternoon of the same day. The vomiting and state of the pulse were as here stated. She complained of head-ache and of thirst, and was very despondent. Her tongue was broad, flabby, slimy, and tremulous: her countenance pale, anxious, and covered by perspiration, and her general surface warm, moist, and clammy. Labor-pains came on that evening, but were even inefficient, the action of the uterus having ceased. Mr. Barnwell administered secale cornutum, which ultimately induced uterine action, and she was delivered after a labor of about twenty hours. On the following day, (the 16th), the distension and tenderness of the abdomen were diminished; and the sickness and vomitings, with borborygmi and flatulent eructations, continued. A pathetic depression of spirits, anxious expression of countenance, flabby and slimy state of tongue, a very rapid, fluent, and weak pulse, clammy state of the skin, scanty and almost suppressed urine, quick and oppressed breathing, a feeling of pressure on the diaphragm, requiring the head and shoulders to be elevated, were soon followed by the symptoms ushering in dissolution."*

633. Dr. Copland has given a graphic picture of the attack when it occurs *almost immediately after delivery*. He says that "the earliest indication of the impending mischief is the great rapidity, softness, and weakness of the pulse, often attended by pain and tenderness at

* Dict. of Pract. Med. part xiii. p. 519.

the epigastrium, by sickness and vomiting, followed by general distension of and pains darting through the abdomen. But in the majority of cases, there are neither chills nor rigors: in a few, a feeling of coldness only; and in still fewer, slight rigors. In this state of the disease the patient soon becomes despondent, predicts her dissolution, is afterwards apathetic, and makes little or no inquiry for her infant. The milk and lochia are either little, or not at all diminished; or are more than usually abundant. The abdominal pain and distension are sudden or quick in their accession; but the pain soon ceases, the distension remaining, and afterwards changing its character if the disease continues above two or three days. The tongue, from the commencement, is flabby, broad, and slimy, or covered by a mucous or creamy coating; the pulse is usually from 120 to 140, or even upwards, fluent, soft, or broad; and the general surface presents a lurid, or dusky, or dirty hue, and is covered by a clammy or offensive perspiration. The countenance is pale and inexpressive, unless where the pain is acute, when it becomes anxious and covered with perspiration. The mind is but little disturbed, beyond a state of complete apathy. As the disease proceeds, respiration is short, suspirious, or difficult, the pulse small, soft, or irregular; the bowels frequently relaxed, and the stools offensive, or passed without control. Distressing feelings of sinking, leipothymia, or restlessness supervene, and are soon followed by symptoms of impending dissolution."

I think it will be found that in the majority of cases, the milk is not secreted at all, or very slightly, and that the lochia, which may appear natural for a day or two, become scanty, and with an offensive odour.

I have also seen the abdomen remain in its natural state, neither painful, tender, nor distended; but these are rather exceptions.

634. The most common period, I have said, for the incursion of the disease, is on the second, third, or fourth day; but it may occur even later. Its commencement may be marked by a rigor, or more frequently by a creeping, chilly feeling, a sort of imperfect rigor. Dr. John Clarke observes, "It has hardly occurred to me to see a case in which the disease began with a shivering fit, which is common in the commencement of many other fevers, and in the cases where the constitution sympathizes with the local inflammations which have been already treated of. If there was any degree of rigor, it has been so slight as to have escaped the attention of the patient, and the observations of her attendants. Indeed, so great a diminution of the sensibility accompanies the whole complaint, that even if a slight rigor should take place, the patient might not observe it, or being sensible of it at the time, might not afterwards remember it."*

* On Pregnancy and Labor, &c. volume on Diseases of Women, published by the Sydenham Society, p. 419.

Coincidently with this sign, or preceding it, or independently of it, we always find the pulse unusually quick; instead of being from 80 to 90, it is generally from 120 to 130, often higher, confirming the accuracy of Dr. John Clarke's observations, that no woman can be considered safe whose pulse is not under 100. But not only is it rapid, but it is generally small, weak, and very easily compressed, not at all a pulse which would justify blood-letting.

At an early stage of the disease, many persons complain of pain in the stomach, bowels, or region of the uterus, accompanied by more or less tenderness, and followed by distension. This, however, is by no means always the case: in a patient I saw lately, who died on the third day of the disease, there was neither pain, distension, nor tenderness in any part of the abdomen. In others, we find distension, with but little pain, and no tenderness.

Sickness of stomach, vomiting, and diarrhœa may occur at the very outset of the disease, or not until the second or third day. Dr. John Clarke says, that the purging generally commences on the third or fourth day, or even later.

But however the disease may commence, and however slight and few the symptoms apparently, to the experienced eye they are always most formidable, and they run generally a rapid course. The patient is nervous, depressed, and fearful; the pulse is small, soft, and increasing in rapidity; the respiration quick, hurried, high, and often panting; the abdomen in many cases swollen, tympanitic, and painful; sometimes universally tender, sometimes only in a particular part: the lochia are sometimes altogether arrested, sometimes merely diminished in quantity, but generally, at least after a day or two, changed in quality, and fœtid: but in some few cases quite unaltered to the last. The secretion of milk, however, I have found invariably checked in the worst cases, sometimes prevented, in other instances checked after secretion has taken place. The urine appears generally to be diminished in quantity.

The mental functions are but little disturbed till towards the termination, when it is not uncommon for the patient to be partially or temporarily delirious, but never violent. In most cases she is greatly depressed and fearful, anticipating an unfavorable result; in some few others I have known the hope of life vivid to the end; in a patient I saw lately, she prognosticated her speedy removal to the drawing-room, an hour before death. It is very remarkable, that in most cases the natural affections of a mother seem perfectly quiescent, the patient rarely asking after, or manifesting any interest in her child after the disease has fairly set in.

635. In the epidemic described by Dr. Joseph Clarke, he says "it always began with a distinct chilliness or shivering. The pain in the cavity of the abdomen was not more frequent in one part than in another, nor was the tenderness so great as to be much affected by such trifling causes as the pressure of the bed clothes. Little or no

vomiting appeared in any stage of the disease, no delirium, and no unequivocal marks of putrescency in any part of the system. The pulse in general beat from 120 to 140 strokes in a minute. The lochial discharge and secretion of milk were not subject to any general law. Sometimes they continued regular for a short time, and sometimes they were suppressed from the beginning."*

Dr. Douglass has thus sketched this form of puerperal fever as it appeared in the Dublin Lying-in Hospital in 1812. "The sensorium here is seldom in any degree disturbed, whereas in the other varieties it is so frequently, and even sometimes is excited to high delirium. The pulse here is usually from the moment of attack soft, weak, and yielding, and in quickness often exceeds 160, whereas in the first species it is full, bounding, and incompressible; and in the second, small, hard, and incompressible, and in both moderately quick. The eye, instead of being suffused with a reddish or yellow tint, as in the others, is here generally pellucid, with dilated pupil. The countenance, instead of being flushed, as in the others, is here pale and shrunk, with an indescribable expression of anxiety, an expression altogether so peculiar that the disease could on many occasions be pronounced or inferred from the countenance alone. The surface of the body, instead of being, as in the others, dry, and of a high pyrexial heat, is here usually soft and clammy, and of a heat not above the natural temperature; and not only is the skin cool, with clammy exudation, but the muscles, to the impression of the finger, feel soft and flaccid, as if deprived of the *vis insita* by the influence of the contagion. Indeed, there is such prostration of strength and depression of the vital principle from the very outset of the attack, that I must suppose the contagion to act upon the human frame probably through the influence of the nervous system, &c."†

Dr. Gooch found that "the cases which were so numerous in these unhealthy seasons had the common symptoms and course of puerperal fever. They began a few days after delivery; the leading symptoms were, diffused pain and tenderness, with some swelling of the abdomen, a quick pulse, which was generally at first full and vibrating. Sometimes it was small, but still it was hard and incompressible; the skin was hot, though not so hot as in other fevers; the tongue was white and moist; the milk was suppressed. As the disease advanced, the belly became less painful, but more swelled, and the breathing short; towards the end, the pulse was very frequent and tremulous, and the skin covered with a clammy sweat; even in this state the tongue continued moist and the mind clear, and death took place generally about the fifth day."‡

* On Puerperal Fever. Sydenham Soc. p. 355.
† Dublin Hospital Reports, vol. iii. p. 154.
‡ On the more important Diseases of Women, p. 40.

In the epidemic which appeared in Paris in 1838, M. Voillemier describes the typhoid form as beginning with a long and severe rigor, often a few hours after delivery; pain very intense over the whole abdomen, which rapidly became swollen; pulse feeble, compressible, undulating, often 150; respiration hurried, anxiety extreme, severe frontal head-ache; countenance sunk, pale, and covered with clammy sweat; constant vomiting of green matters; purging, stools fœtid. The patients rapidly sank at the end of a few days, or even hours. There was no regularity in either lochia or milk.*

Dr. Copland thus sums up the characters of the attack; "whatever may be the period or mode of its accession, this variety of the disease always pursues a rapid course, and unless early arrested by energetic means, it almost always tends to general contamination of the fluids and structures, and to death. At its commencement, the nervous system of organic life and the blood appear to be suddenly and seriously affected, as shown by the general loss of vascular tone, and of sthenic action, by the disturbance of all the vital functions, and relaxation of contractile parts. The earliest symptom is often the remarkable rapidity of the pulse, which is also broad, open, soft or fluent, or small, thready, or irregular, but always very quick and compressible. Rigors and chills are generally absent; or if they have been present, they are either slight, or of short duration. In the most rapidly fatal cases, or such as arise in crowded or close lying-in wards, they rarely occur, and in these the disease may be complicated, or present no prominent lesion or affection, the whole frame participating in the malady, through the medium of the organic nervous or vascular systems; or if any prominent lesion appear, the peritoneum and other shut cavities most frequently experience it, and present the appearances hereafter to be noticed."†

I have quoted these authorities to show, in the first place, that we are not to look for any absolute regularity of symptoms, which will not merely vary owing to individual peculiarities, but according to the different character of the epidemic; and secondly, as illustrating the *broad fact, that the disease has a constitutional rather than a local* character; that the aspect of the case is typhoid, and that the most certain symptoms are vital depression, quick weak pulse, suppressed milk, disordered lochia, &c.

636. The disease advances with varying rapidity, and in its progress the symptoms increase, and assume a more fatal character. The heat of skin is not increased, but the surface is pallid, clammy, and assumes a dirty color, with dark circles about the eyes. The pulse becomes quicker, smaller, and weaker, and towards the end, irregular and intermitting. The respiration is rapid, irregular, and often sob-

* Journ. des Connois. Med. Chir., Dec. 1839, Jan. 1840.

† Dict. of Pract. Med. part xiii. p. 520.

ling; the tongue moist, sometimes clean, but generally loaded with a whitish or yellowish fur, indented by the teeth, and tremulous. Very rarely is it dry and brown as in typhus fever. The nausea and vomiting may increase or diminish, and there are frequent eructations of bad flavour. The abdomen becomes very tense, with constant, or, more commonly, irregular stings of pain, with heat or general tenderness. The patient may either suffer from intense restlessness and anxiety, or lie in a semi-torpid state. The mind gradually becomes apathetic and indifferent, and the patient may either gradually and quietly though rapidly, sink, or dissolution may be preceded by restlessness, dyspnœa, lividity of countenance, &c.

Dr. John Clarke mentions two symptoms worthy of notice, but which I think are by no means common. "In some instances aphthæ will appear over the whole internal surface of the mouth and tongue, the hard and soft palate, the uvula, tonsils, and pharynx, so that they will all become perfectly white and swelled. The irritation from this cause produces a constant disposition to cough, which is also partly occasioned by the secretion of a thick mucus about the pharynx, which chokes up the trachæa, keeping up a perpetual difficulty of breathing. In some instances similar aphthous appearances will be found about the anus." "In some instances purple spots have appeared before death, as in petechial fevers, probably depending either on great weakness of the vessels which allow the fluids to escape into the cellular membrane, or upon some alteration in the state of the fluids themselves, by reason of which they are not so easily retained, or partly on the one, and partly on the other."

637. The local symptoms, however, will vary very much according to the part principally affected, for I believe that any of the forms of local disease, to be hereafter described, may be found complicating this low child-bed fever.

1. In some cases there are absolutely no symptoms indicating abdominal disease. Neither pain, tenderness, nor distension is present. In a case I saw lately, to which I have referred, although the symptoms were of the worst kind, the only local symptoms up to death was inflammation of a small branch of varicose veins of one leg, which was soon much relieved.

2. Peritonitis appears to be the most frequent local affection, judging from the descriptions of the different epidemics; but the practitioner would be greatly deceived who expected it to present the acute and well marked symptoms usual in the ordinary cases of that disease. All the local characteristics are, if I may be allowed the phrase, muffled. There may be pain, even severe pain, but it rarely amounts to the agony we witness in idiopathic peritonitis; very often it is but slight and in paroxysms, diminishing as the disease advances; and in two or three cases, in which I found after death universal peritonitis, there had been neither pain nor tenderness.

3. If the inflammation chiefly or solely occupy the womb or its

appendages, there may be pain and tenderness, or it may be slight and obscure, and only to be detected upon a careful examination.

4. In some of the worst cases I have seen, presenting the most marked typhoid character, with apparent freedom from local disease, and running the most rapid course, the only local lesion was uterine phlebitis, sometimes accompanied by tenderness on pressure at the sides of the uterus, but very often with neither pain nor tenderness. But the disease is too quick in its course for the secondary lesions to show themselves, and therefore during life we can only arrive at a probability of venous or lymphatic inflammation.

In general, subject to the modifications I have mentioned, the local affections will present the characters to be more minutely described hereafter; and I repeat, that in the low form of the disease we may find any of these local affections, or even two or more combined.

The duration of the disease varies very much. In certain epidemics, cases have ended fatally in twenty, twenty-five, or thirty hours from their commencement. Generally speaking, however, the fatal termination is more frequent from the third to the fifth day.

Dr. Collins thus enumerates the periods of commencement and termination in the cases he has recorded. "Of eighty-eight cases that occurred during my residence, one had the disease well marked before delivery; one was attacked in six hours, one in nine, one in ten, three in twelve, one in thirteen, one in fifteen, two in seventeen, one in eighteen, one in twenty, one in twenty-one, and two in thirty hours from delivery; thirty-two were attacked on the first day, twenty-nine on the second, eight on the third, two on the fourth, and one on the eighth day.

"This disease seems to run its course with great rapidity in most instances. In fifty-six deaths in the hospital, it proved fatal at the following periods after the date of the seizure, viz. two in twenty-four hours, one in twenty-seven, one in thirty-six, nine on the second day, fifteen on the third, thirteen on the fourth, four on the fifth, five on the sixth, three on the seventh, two on the eighth, and one on the eleventh."*

638. *Pathology. Morbid Anatomy.*—I must refer my readers to the subsequent sections of this chapter for the peculiar morbid changes observed in the different species of local affection, peritonitis, hysteritis, &c. but in this malignant form there is, in addition, as Dr. Copland has observed, an impaired cohesion of the tissues generally, and more or less of a turbid serous effusion into the serous cavities.

Dr. Copland mentions that in several cases in which blood-letting had been practised, "on every occasion I was struck by the peculiar faint odour and very dark hue of the blood; by the very soft state of the clot when the blood did separate into crassamentum and serum;

* A Practical Treatise on Midwifery, &c. p. 382.

by the appearance which occasionally presented itself, of a mass exactly resembling in color and consistence a common jelly, the coloring matter covering the bottom of the vessel in the form of a precipitate; and by, in some instances, a slight separation only of serum, the large, loose, gelatinous crassamentum, consisting chiefly of this jelly-like matter, the lowest stratum of which contained the black or dark brown precipitate of coloring matter. These appearances of the blood were presented in several cases in the hospital, in 1823 and three or four subsequent years, in which cases blood had been taken before I saw the patients. It may here be remarked that I have seen many cases of this form of the disease, in which leeches had been applied to the abdomen; but in nearly all, and especially in those which occurred in the hospital, the blood which flowed from the bites did not coagulate; and great difficulty, almost amounting to an impossibility of arresting the bleeding from them, was generally observed, owing both to the state of this fluid, and to the impaired vital cohesion of the tissues characterizing the advanced stage of the malignant form of this domestic pestilence."*

In a former section of this chapter, I have adduced other evidence of an altered state of the blood, and judging from all the evidence we possess, I am inclined to believe that the pathology of this malignant form of the disease consists in a depravation of the circulating fluid, either from absorption of noxious matters, or from inflammation of the veins, or from both combined, and accompanied by a diminished cohesion of the tissues generally.

639. *Causes.*—I have already enumerated every imaginable cause, I think, to which puerperal fever has been attributed, and I need not now recapitulate them. I shall merely observe, that a natural and easy labor does not necessarily preclude an attack, nor does a considerable loss of blood confer any immunity; on the contrary, when the disease prevails, whatever depresses the system seems to favor its production.

It is chiefly when the disease is epidemic that we see this low or malignant form, and a knowledge of this fact, and of the coincident prevalence of erysipelas, should put practitioners on their guard, and induce ten-fold more care and watchfulness than usual.

And although the more numerous cases occur in hospital or dispensary practice, are we to anticipate an immunity in private practice? During the late epidemic in this city (1848), I saw several cases in the richer classes, several of which proved fatal. In addition, I have remarked that during an epidemic, even if the disease do not appear in private, lying-in women do not recover as frankly as usual.

I have already said enough about contagion, and earnestly cautioned those engaged in practice to adopt every possible precaution to avoid

* Dict. of Pract. Med. part xiii. p. 523.

being the agents in spreading it. It would surely be a life-long sorrow to feel that our patients had been sacrificed to our carelessness.

640. *Diagnosis.*—There can be no difficulty in distinguishing this disease from every other; its occurrence soon after delivery, the alarming nature of the symptoms, and their rapid progress, are unlike any other affection.

1. *Weed* will sometimes commence very severely, and excite our surprise, but in general it is later in its commencement, more acute than low child-bed fever in its symptoms, and comparatively evanescent in its duration.

2. The ordinary sporadic puerperal fever is more acute, and with more prominent local symptoms; there is nothing like the low typhoid character of malignant puerperal, except, perhaps, in uterine phlebitis, and if this be rapid in its progress, the two diseases run a nearly identical course.

641. *Prognosis.*—It is scarcely possible to conceive a disease in which the prognosis is more unfavorable than in a severe case of low child-bed fever. Dr. John Clarke states, that in his experience about three-fourths die, and I do not believe that to be above the average. Of course, some epidemics are milder than others, and a larger proportion recover; in others, almost all fall victims. So that in any case we should be upon our guard against taking too hopeful a view of a case.

"The danger," says Dr. John Clarke, "seems to be greater in proportion as the accession is sooner after labor. Those who have had the disease at a later period have not been attacked with the same violence; the depression of strength has been less considerable, the tumefaction of the abdomen less extensive, and their chance of recovery has been consequently better. It has not occurred in my sphere of observation to see any recover in whom the swelling of the belly has been in any great degree. Indeed it is hardly possible, when we consider the great injury which all the contents of it must suffer from the effusion of extraneous matter poured into the cavity, as will be hereafter described."

The unfavorable symptoms are, a pulse of increasing quickness and diminished strength; suppressed secretion of milk and lochia, nervous agitation, rapid breathing, swollen abdomen, sunken countenance, clammy skin, exhaustion, &c.

On the other hand, a slower pulse, quiet bowels, diminished distension of the abdomen, natural respiration, and a warm moist skin, with natural evacuations, and a continued supply of milk, are favorable symptoms; but no improvement in any symptom can be considered satisfactory, unless the pulse becomes decidedly slower, fuller, and more steady.

642. *Treatment.*—If by the treatment of low puerperal fever, we mean such remedies as will afford a reasonable hope of cure in the

majority of cases, I must frankly avow that I know of no such remedies.

As Dr. John Clarke observes, "this disease is less obedient to the power of medicine than almost any which I know. Its attack is so very insidious, and often entirely unperceived, and its fatal termination is often so sudden, that the time when medicine could be useful has often elapsed before it has been even known that the disease existed at all." I am satisfied that if *active* treatment be at all efficacious or even justifiable, it must be within the first twelve hours; and how rarely do we see a patient so early: nay, in many cases, I should doubt if very active treatment is ever justifiable.

Thus, if bleeding be ever allowable. it must certainly be within the first twelve hours; but in the majority of cases I have seen, it was not admissible.

Drs. Gordon, Armstrong, and others, no doubt, have spoken highly of the effects of early and large bleedings; but, so far as I can judge, the disease was of a much more acute inflammatory character.

Dr. John Clarke gives the result of his experience in these words: "In the first place then let me caution (especially younger) practitioners not to be misled by the tumefaction of the abdomen, so as to employ the lancet with the expectation of curing a supposed inflammation. Bleeding from the system has been always attended with manifest disadvantage, although it has been tried in patients who have been apparently strong and plethoric before. It has in some instances, for a short time, diminished the pain, and the buffy appearance on the blood taken away has been supposed to justify the operation; but it generally lowers the patient extremely, and in some cases I have known it evidently hasten death. Bleeding from the skin of the belly by leeches, though it do not produce the same degree of debility, yet has in no instance, within my knowledge, contributed in any degree to the cure of the patient."

Dr. John Clarke equally objects to blistering the abdomen; but from the cases I have seen I am inclined to think it useful, and it affords an opportunity of applying mercurial ointment to a highly absorbent surface.

M. Doulcet's plan of emetics seems to have failed in producing the beneficial results he expected. Dr. Copland tried it, but it did not succeed, and in Dr. John Clarke's hands it was disadvantageous.

Calomel, in small or large doses, with or without opium, seems to be our sheet anchor, especially if we see the patient early. I have seldom found it possible to give it in large doses, in consequence either of the existing intestinal irritation, or of the irritation produced by it; so that I have generally given it in doses of one or two grains of calomel, with one-third of a grain of opium, or two or three of Dover's powder every two, three, or four hours. Dr. Copland derived more benefit from the larger doses of calomel and opium, every five or six

hours, with a dose of turpentine and castor oil. He also tried "the effects of camphor, in large doses, in conjunction with calomel and opium, and sometimes with opium alone; or with quinine and capsicum, omitting the calomel, aided by the turpentine, and preceding them by an emetic, when its use was indicated by the symptoms," and with considerable success.

If diarrhœa be troublesome, we may have to omit the calomel, but mercurial inunction may be substituted.

Dr. John Clarke's plan was to give bark in powder or decoction, with opium wine, anodyne fomentations to the abdomen, &c. In some cases, a gentle emetic was given, and emollient or anodyne clysters, if diarrhœa be present.

The spirits of turpentine seems to be of use in some cases, but certainly not to the extent supposed by Dr. Brennan. It forms an admirable fomentation to the abdomen when blisters are not used, and when the bowels are confined, is a useful addition to castor oil as a purgative, given either by the mouth or as an enema.

Other remedies, which have been found beneficial in the other and more local forms of puerperal fever, seem to be of no use in this variety, so that our means of treatment seem to be reduced to leeches, perhaps bleeding at a very early period; fomentations or blisters to the abdomen at a later; calomel and opium, camphor, turpentine, cordials, and stimulants, and the result of these is by no means certain or very favorable.

When the disease occurs in hospitals, the patient should be separated from all others, and the greatest cleanliness observed. Before it is again used, the ward should be well scoured, and ventilated; the bed scoured, and the bedding washed, or, what is even better, burned.

643. II. Inflammation of the Peritoneum. This variety of the disease was the one observed in the epidemic in London, at Aberdeen, Leeds, Edinburgh, and Dublin; and it has occurred in other epidemics. It appears to affect the peritoneum covering the uterus primarily, and to extend from thence to the remaining portion of the serous membrane, involving not unfrequently the uterine appendages.

The attack may commence even before delivery, of which I had an example; but more generally from twenty hours to three days afterwards.* The first symptom is either sudden rigors, pain, or some

* "Two patients appeared to be ill during labor, and continued so without interruption after delivery. One of them died in thirty-six hours, and the other lived till the sixth day." "Three were attacked on the second day after delivery, and died on the seventh, or of five days' illness. One was attacked on the fourth, and died on the tenth. One was very distinctly attacked on the ninth day, as she was sitting by a good fire, and died on the twelfth."

variation in the pulse. Dr. Campbell has remarked that in some who were attacked early, the sinking of the pulse which takes place after delivery, in ordinary cases, was absent, and the frequency of the pulse rather increased.

Generally speaking, the rigors are first noticed; to these succeed heat of skin, thirst, flushed face, quickened pulse, and hurried respiration. The heat of skin, however, soon subsides, and during the course of the disease it may not exceed the natural standard.

To these symptoms succeed nausea, vomiting, pain in the head, and increased sensibility of the uterus. In some cases, the uterine tenderness, (not amounting to pain,) is contemporary with the rigors, or immediately succeeds them.

Pain in the abdomen soon attracts notice. It generally commences in the hypogastrium, or in one of the iliac regions, gradually radiating over the abdomen.* It may be slight or severe, continuous or in paroxysms, the intermissions being more remarkable as the disease advances.† After the remission, the pain shortly returns with increased violence.‡

We are not, however, to consider the pain as pathognomonic of the disease, for we sometimes see abdominal pain resembling that in puerperal peritonitis, which afterwards disappears altogether. And in certain cases of undoubted puerperal fever, there is no pain, or pain of slight duration. I have seen three cases of intense puerperal peritonitis (as shown by dissection) in which there was neither pain nor tenderness.

Dr. Ferguson has carefully estimated the frequency of this symptom, and he has found that the number of his patients who had no pain was nineteen; the number who had pain for one day, was fifty-one; for two days, forty-eight; for three days, twenty-two; for four days, eighteen; for five days, six; for seven days, five; and for eight days, four.

The pain from the first is accompanied with more or less sensibility of the hypogastrium; this tenderness becomes exquisite as the inflammation extends, until at length the patient cannot bear the slightest pressure; even the weight of the bed-clothes is intolerable, and the

"Of thirteen cases in the epidemic of 1788, one was attacked four days before delivery; one on the day of delivery; eight on the second day; and three on the third."—*Dr. Jos. Clarke's Essay, Med. Com.*, 1791, pp. 311–15.

"I found that in by far the majority of cases, the disease appeared soon after parturition, generally within the third day."—*Campell's Midwifery*, p. 26.

* Gordon, on Puerperal Fever, p. 5.

† Hey, on Puerperal Fever, p. 22.

‡ Campbell, on Puerperal Fever, p. 30.

tension and pressure of the parietes are avoided, by lying on the back, with the knees drawn up.

The enlarged uterus can frequently be felt through the integuments, above the brim of the pelvis, at an early stage of the disease.*

Shortly after the disease is established, the abdomen becomes tumid and tympanitic, and in many cases, at a more advanced stage, the presence of effusion may be detected.†

The air which gives rise to the tympanites may be contained either in the intestines, or the peritoneal sac.

The effect of the disease upon the lochial discharge varies; in the majority of cases, it continues to flow as usual. In some, the quantity is diminished; and in a very few, it is suppressed.‡

The secretion of milk is much more uniformly influenced by the attack. If it have commenced before the incursion of the disease, it is suspended, and the mammæ become flaccid; if the disease precede, the secretion is generally prevented. It is remarkable that a great number of the patients lose all interest in their infants, and even refuse to give them suck.

The pulse is uniformly high throughout the disease, varying from

* "The uterus, in almost every instance, could be distinctly felt above the pubes—it was extremely sensible to the touch; and my impression is, that this organ increases in size during the disease."—*Campbell, on Puerperal Fever*, p. 33.

"Though an enlarged and painful state of the uterus is never altogether wanting, yet the pain often undergoes exacerbations similar to after-pains, and is frequently mistaken for these by careless observers; and the true character of the disease is overlooked, until a great part of the peritoneal sac is inflamed. The whole abdomen then becomes swollen and tympanitic, and the pain either wholly subsides, or becomes still more intense than at the commencement."—*Lee, on Puerperal Fever*, p. 21.

† "The lochial discharge, and the secretion of milk, were not subject to any general law. Sometimes they continued regular for a short time, and sometimes were suppressed from the beginning."—*Dr. Jos. Clarke's Essay, Med. Comment.* 1791, p. 309.

"The lochia are often entirely suppressed; in other cases only diminished in quantity. In some instances they have an offensive odour. The mammæ usually become flaccid; yet in some fatal cases, the milk has been secreted until a short period before death."—*Lee, on Puerperal Fever*, p. 22.

‡ "If the disease came on before the secretion of milk, that secretion was entirely prevented; if afterwards, it soon disappeared, and the breasts became flaccid. The lochia were variously affected; sometimes they suffered no alteration, at others, they were diminished or sup-

110 to 140 in a minute, and towards the termination, to 160 and upwards. It is generally small and wiry, but is liable to modifications from treatment, and from the peculiar character of the epidemic.

Dr. Hulme observes: "the pulse in general is quick and weak, though sometimes it will resist the finger pretty strongly. At the beginning of the disease, it seldom beats less than a hundred strokes in the space of a minute; and from this number I have found it run on to 160. The intermediate pulsations were various. The most common number was 128; and the next general numbers were 112, 120, and 132. The different habits of body, and circumstances of the disorder, will easily account for these variations in the pulse. When the disease proves mortal, the pulse at last becomes so quick and weak as scarcely to be numbered."*

Dr. Campbell's experience confirms the former. He says: "the condition of the circulation is various at the commencement; but I have never found the pulse below 110, after it could be said that the disorder was fairly established; on the contrary, indeed, it was more frequent than this, seldom under 120. When the disease is fully formed, the pulse is oftener from 120 to 130, than in any other state; and when it has continued for any time, the rate of vascular action will seldom be lower than 140. In the advanced stages of cases which are to terminate fatally, the pulse is oftener above 140 than below it; sometimes it is too rapid to be numbered. In the commencement, the pulsation is sometimes full, but more generally hard; and as the disease advances, it becomes contracted, or thready, frequently intermits, and towards the close is so weak for a considerable period, as to be scarcely perceptible."†

The tongue is generally coated with a whitish film in the centre, but red around the edges. In some few cases it is dry, and brown in the centre, with a yellowish or white fur at the edges.

The thirst is considerable at the beginning, and towards the termination of the disease, but much less during its height.

The stomach is disturbed at a very early period, and the nausea and vomiting continue at intervals throughout the attack. At first, the matter voided is merely the contents of the stomach, mixed with

pressed; but would often appear afresh during the continuance of the disease."—*Hey, on Puerperal Fever*, p. 23.

"The secretion of milk was nearly suspended soon after the attack; the breasts became flaccid, and the mother, so lately all solicitude about her child, now seldom inquired after it, and indeed seemed almost insensible to those things which before most deeply interested her feelings."—*Armstrong, on Puerperal Fever*, p. 4

* Hulme, on Puerperal Fever, p. 6.

† Campbell, on Puerperal Fever, p. 35.

mucus; afterwards, bilious mater is ejected; and lastly, green, brown, and black fluids, constituting what is called the "coffee-ground vomit."*

In many cases, the intestinal canal shares in the irritation, and diarrhœa results. This, by some, has been held as a favorable symptom; but by others, as an aggravation of the puerperal fever. My own observations would lead me to the latter conclusion.

The dejections vary in character and consistence, becoming very dark and fœtid towards the termination of bad cases.

The urine is generally turbid, or high colored, and somewhat diminished in quantity, and the patient has occasionally difficulty in voiding it.†

Throughout the course of the disease, the skin is generally about the natural heat, and dry; but as it approaches a fatal termination it becomes cold and clammy.

The intellectual faculties are rarely affected; the patient retains her consciousness and senses till very near the end.

The countenance is much altered; the features are all drawn up, and expressive of great anxiety and suffering. A patch of crimson is observed on the cheeks sometimes, and is an unfavorable symptom.‡

Such are the symptoms, as laid down by those who have had the most ample experience in this fatal disease.

Its duration will vary according to the virulence of the epidemic. Some cases have terminated fatally on the first, second, or third day; others, from the fifth to the tenth.§

* "Mr. Murray, an able teacher of chemistry in this city, did me the favor to analyse some of the black vomit; and he found it to consist chiefly of resin, together with mucus, gelatine, phosphate of lime, and muriate of soda, in small proportions."—*Campbell, on Puerperal Fever*, p. 181.

† The patient at first often complains of some difficulty in making water, and discharges it in small quantities; but this usually goes off after having a stool or two. The urine, after standing for some time to settle, generally appears of a brown color, and deposits a crude sediment, half floating, at the bottom of the glass."—*Hulme, on Puerperal Fever*, p. 9.

‡ "The intellectual faculties were sometimes, but not frequently, deranged; for I seldom observed a delirium, except in a few improperly treated or neglected cases, to which I was called late in the disease. But, in general, the patient retained her senses to the last."—*Gordon's Essay on Puerperal Fever*, p. 7.

§ "Dr. Denman says, on the eleventh day from the attack. Forster, from the fourth to the sixth day. Leake, tenth or eleventh. Hulme, seventh or eighth day. Hamilton, fifth or sixth day. Gor-

644. *Morbid Anatomy.*—The peritoneum *may* exhibit no sign of inflammation; but generally it is found more or less vascular, especially that portion of it covering the uterus.

Dr. Lee states that, "puerperal peritonitis commences in the peritoneal covering of the uterus, and extends from thence, with greater or less rapidity, according to the severity of the attack, to the whole peritoneum. In some cases, the inflammation is confined to the uterus, and it is generally most severe in this situation, or in the parts immediately surrounding that organ; even when it has extended to the other viscera, and affected them most severely, the peritoneum of the uterus invariably exhibits signs of recent inflammation. The lymph is, for the most part, thrown out in thicker masses upon the uterus than in any other situation; and this viscera seems always to suffer in the greatest degree. In the cellular membrane, under the peritoneum, serum and pus are also not unfrequently found deposited. The cellular tissue also, which surrounds the vessels of the uterus, where they enter and quit the organ, not unfrequently contains some serous or purulent fluid, and the same appearance has been observed in the cellular membrane, connecting together the muscular fibres."*

Dr. Collins states that "in thirty-seven of the fifty-six women who died, the following post mortem appearances were discovered:—"The abdomen being ostensibly the seat of the disease, the morbid appearances were principally found there; however, in *seven*, we observed fluid effused into the thoracic cavities, similar in appearance to that met with in the abdomen. Effusion of fluid, though differing in character and quan-

don, on the fifth day. Hey, within a week. Bang, on the fifth or sixth day.

"A greater number of our patients died on the fifth day from the commencement of the disease, than at any other period. One, as already stated, died on the first day, or that on which she shivered; three on the second; three on the third; four on the fourth; *seven on the fifth;* one on the sixth; two on the seventh; and one on the eighth day."—*Campbell, on Puerperal Fever*, p. 50.

"It may destroy the patient within twenty-four hours from the commencement of the disease." "Three or four days, not to say five or six, may be the average duration of this affection."—*Blundell's Obstetricy*, p. 741.

"In *fifty-six* deaths in the hospital, it proved fatal at the following periods after the date of the seizure, viz.—*Two* in twenty-four hours; *one* in twenty-seven; *one* in thirty-six; *nine* on the second day; *fifteen* on the third; *thirteen* on the fourth; *four* on the fifth; *five* on the sixth; *three* on the seventh; *two* on the eighth; and *one* on the eleventh day."—*Collins, Pract. Treat. on Midwifery*, p. 384.

* Lee, on Diseases of Women, p. 24.

tity, was invariably found to have taken place. In *twelve*, it seemed to be serum, of a straw color; in *eighteen*, it was sero-purulent, something of the consistence of thick cream; and in *seven*, it appeared bloody serum, with quite a glutinous feel when rubbed between the finger and thumb. In these latter cases, which rapidly proved fatal, there was no lymph whatever formed; whereas, in the other varieties, it was usually found deposited in large quantities, particularly in the vicinity of the uterus, but often over the entire surface of the intestines and abdominal serous membrane. In almost every body examined, the peritoneum exhibited great increase of vascularity; nor could we discover in any instance that the inflammation seemed to penetrate deeper than this membrane. The uterus, in a great majority of cases, was quite natural in appearance: in some it was soft and flabby, and in a few, unhealthy matter was found in its sinuses. The ovaries, in numerous instances, had suffered much in structure from the effects of inflammation; being generally much enlarged, and so softened in texture as to be broken in pieces by the least pressure."*

The longer the duration of the pain, the more intense will be the redness, and the greater the thickening of the peritoneum. It is frequently covered with a layer of lymph, which agglutinates the omentum and intestines together.

The omentum generally exhibits marks of inflammatory action, and in some cases the disease appears confined to it.

The organs covered by the serous membrane may participate in the inflammation.

More or less serum and lymph are found effused into the peritoneal sac. It does not vary in chemical composition from that in ordinary peritonitis. It may be clear or turbid, of a yellowish white color, with shreds of lymph floating in it. Blood may be effused into the peritoneal sac, alone, or mixed with the serosity.

Puriform matter is frequently found, especially in the pelvis, around and behind the uterus, where the inflammation has apparently been most intense. "It is often contained in a cyst, which apparently is merely a concretion of the outer surface of the globe of pus."

Effusion of puriform matter, or a reddish serum, is sometimes observed beneath the serous membrane. In an epidemic which occurred in Dublin, Dr. S. Cusack states that "two kinds of effusion are met with in the cells of those tissues (subserous and pelvic cellular tissue), one a reddish serum, occasionally so copious as to pervade not only the cellular tissue about the uterus, the pelvic cavity, and the iliac regions, but even sometimes to distend the cells of the delicate cellular tissue which connect together the two layers of the mesentery. The

* Collins, Pract. Treatise on Midwifery, p. 398.

other species of effusion is not of so fluid a nature, resembling jelly in appearance and consistence. This also occupies the cellular tissue, and is most conspicuous where the looseness of the peritoneum admits of freer effusion. Thus, the lax nature of the cellular tissue connecting the layers of the peritoneum, which form the broad ligaments of the uterus, admits of its being poured out in considerable quantities in that situation."*

645. *Diagnosis.*—1. *From after-pains, or hysteralgia.*—These affections occur soon after delivery, and diminish or disappear by the third or fourth day, about the period when puerperal fever commences.

After-pains are accompanied by a perceptible contraction of the uterus, which is absent in puerperal fever.

The pulse is sometimes accelerated by after-pains, but is seldom steady in its frequency; in puerperal fever, it never falls below its frequency at first, but generally increases.

The hypogastric tenderness in after-pains, is not great, except during a pain, and it goes on decreasing; whilst in puerperal fever, it rapidly increases.

The constitutional disturbance is incomparably greater in puerperal fever, and it augments every day; whilst in hysteralgia it diminishes.

The sedative, which generally relieves after-pains, has little or no influence upon the pain in puerperal fever.

Notwithstanding these distinctions, there are undoubtedly many cases in which the diagnosis is by no means easy at first; and our treatment should be arranged so as to err (if we be in error) on the safe side.

2. *From intestinal irritation.*—This affection frequently assumes many of the characteristics of puerperal fever. There are, however, several points of difference. It is generally accompanied by marked evidences of gastric and intestinal disorder. The tongue is loaded; there is flatulence, nausea, and vomiting, constipation, or diarrhœa. The abdominal pain is diffused, and does not radiate from the uterus, as in puerperal peritonitis; neither is the uterus enlarged, or tender. The abdomen is not tense, nor very sensible to pressure. Puerperal peritonitis sets in at an earlier period after delivery than intestinal irritation, and it causes greater constitutional disturbance. Dr. R. Lee thus draws the distinction: "In case of intestinal irritation, or disordered states of the stomach or bowels after delivery, which are not of such frequent occurrence as some writers have represented, the pain is from the commencement of the attack diffused over the whole abdomen; it is rather a griping than acute pain; does not commence in the region of

* Dr. Sam. Cusack, on Puerperal Fever, Ed. Med. and Surgical Jour. No. 98.

the uterus; and is but little, if at all, aggravated by pressure. The abdomen is generally soft, puffy, and distended. The tongue is loaded; there is thirst and head-ache; neither the lochia nor the secretion of milk are suppressed. The febrile attack is usually preceded by evident signs of derangement of the bowels, such as flatulence, nausea, vomiting, constipation, or diarrhœa. Puerperal peritonitis is developed, in a large proportion of cases, before the end of the fourth day after delivery, whereas this affection rarely appears until the termination of the first week."*

3. *From ephemeral fever, or weed.*†—The commencement of ephemeral fever may excite some alarm, from its resemblance to puerperal fever; but its duration is shorter, its decline rapid, and its constitutional symptoms less severe. There is also far less abdominal irritation, and the breasts continue distended.

4. *From hysteritis.*‡—The main distinction is the character and situation of the tenderness; in puerperal peritonitis, the slightest touch on the abdominal parietes causes acute torture; whereas, in hysteritis, the patient can bear pressure very well, until we can feel the enlarged uterus. Any increase of pressure, after the abdominal parietes are in contact with the uterus, gives acute pain.

The symptoms of hysteritis are also more local.

646. *Prognosis.*—The general prognosis is unfavorable, even in sporadic cases, but still more so when the disease is epidemic.§

* Lee, on Diseases of Women, p. 22.

† "The ephemera called 'the weed,' is ushered in by strong rigors, which commonly in less than an hour are followed by heat, thirst, and general excitement, the whole train of symptoms being terminated in twenty-four or thirty hours by profuse perspiration. The absence of abdominal irritation is generally sufficient to prevent the possibility of mistaking the disease for puerperal fever."—*Armstrong, on Puerperal Fever*, p. 22.

‡ "Simple hysteritis may be known by a burning, throbbing pain, fulness, and oppressive weight in the region of the uterus, by frequent calls to make water, which is passed with great pain and difficulty; by the uterus itself feeling hard, hot, and enlarged; being exquisitely sensible when pressed upon; by violent pains darting through to the back, and down to the groin and thighs; by an increase of pain from raising the trunk erect; and by the soreness and fulness being more confined to the lower part of the abdomen throughout the attack than in the puerperal fever."—*Armstrong, on Puerperal Fever*, p. 20.

§ "For some time after the commencement of this fatal malady, it proved fatal in every case that came within my knowledge; and though a few patients recovered, under the treatment which my

Dr. Hulme declares it to be as bad as the plague.

Dr. Leake lost	13	cases	out of	19.
Dr. W. Hunter,	31	...	...	32.
Dr. Clarke,	21	...	...	28.
Dr. Gordon,	28	...	...	77.
Dr. Campbell,	22	...	...	79.
Dr. Armstrong,	4	...	...	44.
Dr. Lee,	40	...	...	100.
Dr. Collins,	56	...	...	88.
Dr. Ferguson,	68	...	...	205.

647. *Treatment.*—It must be borne in mind, when any peculiar mode of treatment is advised, that the character of the epidemic is the test of its propriety. Forgetfulness of this rule has been the source of much controversy, and no slight acrimony. As Dr. John Clarke remarks, each author takes the epidemic he has witnessed as the type of all, and remorselessly condemns all treatment which does not agree with that which he has found successful. There is no question that the employment of antiphlogistic remedies, by Gordon, Hey, Armstrong, &c. was a great improvement upon the old methods; but it is easy to conceive an epidemic in which this plan must be strikingly modified, or altogether abandoned. Having premised thus much, I shall describe the treatment which has ordinarily been found the most efficacious.

If the pulse be firm, a large quantity of blood should be taken from the arm. Dr. Gordon recommends from twenty to twenty-four ounces at the beginning, and, if necessary, this may be repeated.* The blood generally exhibits the buffy coat.

Should any circumstances forbid a repetition of the venæsection, a number of leeches (from 60 to 100, *Campbell,*) may be applied to the abdomen, and when they fall off, the abdomen should be fomented, or covered with a light bran poultice.

father and I had formerly found successful with puerperal fever; yet the success was very small till the method hereafter described was fully adopted."—*Hey, on Puerperal Fever*, p. 10.

* "In the child-bed fever, therefore, bleeding is the only remedy which can give the patient a chance of life."—*Leake, on Child-bed Fever*, p. 101.

"When the pulse is *firm and regular*, we should not hesitate to use the lancet at whatever time we are applied to."—*Campbell, on Puerperal Fever*, p. 262.

"As to the repetition of bleeding, and the manner of conducting it, I think it most important to remark, not only in reference to this, but to all puerperal diseases, that the mode proposed by Dr. Hall, *to place the patient upright, and to bleed to incipient syncope, is one of*

The fomentation, or poultice, may be repeated at intervals, as it has a very soothing effect.

After full depletion, the next most powerful remedy is mercury, alone or in combination with opium. Without explaining its *modus operandi*, it is sufficient to state the fact, that it has been found to exercise a remarkable influence over inflammation of serous membranes. It may be given in large doses, (gr. x. every three or four hours,) or in smaller ones, more frequently repeated, (gr. ii. every hour); and it should be continued until an impression is made upon the disease, or until the mouth is affected, unless purging be induced.

After a decided effect is produced, the dose may be diminished, and the intervals lengthened.

For the purpose of preventing intestinal irritation, it is usual to combine it with Dover's powder or opium. Perhaps it is not too much to say, that the benefit of the opium in this combination is not confined to the prevention of intestinal disturbance, but that it exerts a positive and beneficial influence upon the inflammation. Mercurial frictions are a valuable mode of affecting the system, and for this purpose I would strongly recommend the Linimentum Hydrargyri of the London Pharmacopœia.

When the calomel acts on the bowels, it may be omitted, and the opium alone continued; and I have seen as much benefit from it alone as from the calomel. Some years ago, I saw a case of puerperal peritonitis, in consultation with a friend, and we administered large doses of opium, (gr. i. every hour,) with the greatest benefit. Since then, several similar cases have occurred to me. My friend, Dr. Stokes, was

extreme value, affording at once, perhaps, the safest rule, and the best diagnostic in these cases."—*Ashwell, on Parturition*, p. 481.

"Bleeding in puerperal fever is advocated by the following practitioners: Dr. Denman (in his old age); Dr. Leake; Dr. Gordon (boldly); Dr. Butler; Dr. Kirkland (if the lochia be little); Dr. Hall (the robust only); Dr. Armstrong (boldly); Mr. Hey (boldly); M. Vigarous and M. Gardien (in some varieties); Dr. Campbell, Dr. Macintosh, (boldly); Dr. Douglas (in the first and second varieties); Mr. S. Clarke; Dr. Jos. Clarke; M. Dugès; M. Tonnellè; Dr. Blundell; Dr. Conquest; Dr. Gooch; Dr. Dewees; Dr. Ryes; Dr. Lee, &c."—*Moore, on Puerperal Fever*, p. 210.

"In fifteen only of the eighty-eight did we deem it advisable to bleed generally; *seven* of the fifteen recovered." "I am satisfied, however, that in *hospital*, the immediate application of *three or four dozen* leeches, followed by the warm bath, in which the patient should remain as long as her strength will bear it, will be found in the great majority the most judicious means of removing blood.—*Collins, Pract. Treatise on Midwifery*, pp. 391, 393.

the first to point out the value of opium in bad cases of peritonitis, where bleeding was inadmissible; and I have repeatedly verified his observations.

Tartar emetic was recommended by Hulme, and used by several since his time, with apparent benefit. The state of the stomach, in many cases, however, will prevent its exhibition.

Purgatives have been warmly recommended by some writers, as Hulme, Denman, Gordon, Hey, Armstrong, Chaussier, and Stoll, and as strongly reprobated by others, as Baglivi, John Clarke, Cederskiol, Thomas, and Campbell.

"My own experience," says Dr. Ferguson, "with regard to aperients, is, that whenever they create tormina, there is the greatest risk of an attack of metro-peritonitis succeeding. This so constantly occurs, that I invariably mix some anodyne, usually Dover's powder, or hyosciamus, or hop, with the purgative."*

If the bowels be constipated, an enema of turpentine and castor oil will be useful.

The spontaneous diarrhœa is not always beneficial, but will often need to be restrained by astringents or opiates.

Emetics were employed before 1782, by English practitioners; and in 1782, they were recommended by Doulcet of Paris, who relied upon them exclusively, and derived from them extraordinary success. Other practitioners have also used them successfully—for example, Hufeland, Osiander, Desormeaux;† but they have failed so often as to have gone out of use, especially in these countries, perhaps in consequence of our mistaking the proper cases.‡

In 1814, Dr. Brennan of Dublin proposed the use of turpentine, which he praised as almost a specific. He gave it in doses of a tablespoonful at a time, in a little water, sweetened. Drs. Douglas,§

* On Puerperal Fever, p. 211.

† "M. Tonnellè states that M. Desormeaux first made trial of them about the end of 1828, with great advantage. During the following year, they were again employed, but most frequently they entirely failed; but they never appeared to produce any aggravation of the pain, or other symptoms. Another trial was made of them after this, and they were again followed by the most happy results." In September, 1829, they succeeded; but in October and November they failed.—*Lee, on Diseases of Women*, p. 109.

‡ "The practical question, then, is, what are these cases in which the remedy is applicable? The clue has been already given, I imagine, by Doulcet himself; it is, when the violence of the malady has fallen on the liver especially; and when there is early nausea, and spontaneous vomiting."—*Ferguson, on Puerperal Fever*, p. 204.

§ Dublin Hospital Reports, vol. iii.

J. A. Johnson, Dewees, Payne,* Kinneir, Blundell, and Waller, have found it more or less useful.

Dr. Clarke, and other practitioners, tried it, but without success.†

It is certainly beneficial, when the intestines are tympanitic, especially in the form of enema, and as a counter-irritant to the abdomen; but I have never seen it exert any remarkable influence upon the disease.

At an advanced stage of the disease, blisters are very useful. They may be applied to any part, or to the whole of the abdomen, and dressed with mercurial ointment.

Recolin, Dance, and Tonnellé, have recommended injections of warm water into the vagina and uterus, three or four times a-day. Drs. Lee and Campbell have tried them in a few cases, with decided advantage. I have frequently syringed the vagina with warm water, with benefit; but I never threw the injections into the uterus.

Hip baths have been found useful by Desormeaux and Collins; but the pain of moving the patient is an insurmountable obstacle to their frequent use.

Loeffler, and Ceeley of Aylesbury, have seen good effects result from the application of cold to the abdomen.

The irritation of the stomach may be allayed by effervescing draughts, containing a few drops of laudanum, or by a few grains of the subcarbonate of potash, dissolved in aq. menth. virid.

A selection of these remedies will afford a tolerably good chance to the patient, if we are called early; but in many instances we shall fail either in cutting short the disease, or in curing it ultimately. It is of the greatest importance, however, that all the means at our command should be tried perseveringly, and that our forebodings should not be allowed to diminish our exertions.

648. III. HYSTERITIS.—Inflammation affecting the proper tissues of the uterus has been frequently described. It is mentioned by Astruc, Vigarous, and Primrose.‡ Pouteau met with it in the epi-

* Edin. Med. and Surg. Journal, vol. xxii. p. 53.

† "In addition to the usual routine of practice, numerous trials were made of the rectified oil of turpentine, in doses of from six to eight drachms; sometimes in plain water; sometimes combined with an equal quantity of castor oil. The first few doses were generally agreeable to the patient; and seemed to alleviate the pain. By a few repetitions, it became extremely nauseous; and several patients declared that they would rather die than repeat the dose. In more than twenty trials of this kind, not a single patient recovered."—*Dr. Clarke's Letter to Dr. Armstrong.*

‡ "Astruc, Vigarous, and Primrose, state that the uterus is liable to be attacked with gangræne and sphacelus; and other authors, par-

demic of 1750. Böer, and Ricker, have termed it *Putrescirung*, or *Putrescenz der Gebarmütter*;* and Smith,† Danyau,‡ and Tonnellè, have recorded cases of it.

In certain epidemics, it is by no means infrequent. Out of 222 fatal cases of puerperal fever, M. Tonnellè found

Simple Metritis	in 79
Superficial softening	in 29
Deep softening	in 20

M. Dugès found the womb affected in 3 cases out of 4.

Dr. Robert Lee states that in 45 dissections, the muscular coat of the uterus was softened in 10 cases.

649. *Symptoms.*—These vary somewhat according to the epidemic, and a great deal according to the severity of the attack. In the milder forms, where the disease has not proceeded so far as to disorganize the uterine tissue, I have usually found it to commence on the third or fourth day, and generally with rigors, followed by heat of skin, thirst, and head-ache.

The pulse rises to 100 or 110. The tongue is dry and furred. The countenance expressive of suffering, but without the pinched, drawn-up character we find in puerperal peritonitis.

The patient complains of pain and tenderness in the uterine region; and upon examination, we find the uterus enlarged, hard, and tender.

The abdomen at first is soft, and without tenderness, which is first felt when we perceive that we are making pressure upon the uterus.

As the disease advances, the abdomen often becomes tympanitic; and in some cases the inflammation extends to the peritoneum.

The lochia are sometimes suppressed, but often unaltered. The secretion of milk is generally arrested.

Dysuria occasionally causes much distress.§

The *severer* form of hysteritis—such as described by M. Tonnellè and Dr. Lee—is ushered in by rigors, followed by increase of heat, and head-ache. There is occasionally delirium, or other evidences of cerebral disturbance.

ticularly Pouteau and Gastellier, have recorded cases where gangrene of the uterus followed acute inflammation of the organ."—*Lee, Diseases of Women*, p. 37.

* Siebold's Journal.

† Repertoire gen. d'Anatomie, vol. v. p. 1.

‡ Essai sur la Metrite Gangreneuse, 1829.

§ "Sometimes there is a frequent desire to make water, attended with more or less pain: or there may be a retention of urine; especially if mechanical aid has been required to effect the delivery; and the passing of water is accompanied by a sense of heat, and burning in the urethra and vulva."—*Dewees, on Diseases of Females*, p. 363.

The countenance is pallid, anxious, and disturbed. The skin, at first hot and dry, becomes cold, and sometimes of a blue or yellowish tinge.

The respiration is hurried, the pulse rapid and feeble, and there is great prostration of strength.

The tongue soon becomes foul, and the lips covered with sordes. Nausea, vomiting, and diarrhœa are generally present.

The patient complains of pain at the hypogastrium, where the enlarged uterus may easily be felt, and is tender on pressure.

The lochia are either diminished or suppressed; and occasionally their quality is changed, and they become acrid and fœtid.

650. Hysteritis may terminate—1. *In resolution;* as is the case with the mild variety which I have described, and in which there is a gradual subsidence of the symptoms.

2. In *abscess;* which may open into the uterine cavity, or into the peritoneal sac. I had an opportunity of seeing a case of the latter kind, some time ago, in a patient whose case has been published by my friend Dr. Beatty.*

3. In *softening.* This termination was observed 49 times by M. Tonnellè, and 10 times by Dr. R. Lee, who says, "Among the 222 fatal cases of puerperal fever observed by M. Tonnellè, in the Maternitè at Paris, in 1829, there were 49 in which the muscular tissue was found softened. M. Tonnellè states, that 'softening of the uterus,' after shewing itself frequently in the first half of the year 1829, and particularly about January, disappeared entirely in the months of July and August, which were characterised in a remarkable manner by the frequency of inflammation of the veins. Afterwards, it began to rage anew, with great violence, in September and October, and again disappeared in the last two months, during which time the mortality was inconsiderable."†

4. In *gangrene.* This has been described by M. Böer, in his valuable work,‡ and by Ricker,§ and noticed by Siebold, Busch, Boivin and Duges, Danyau, &c.

651. *Morbid Anatomy.*—The peritoneal coat of the uterus very often exhibits marks of inflammation. It may be vascular, and coated with lymph, or softened.

* "Sometimes, however, there is reason to believe that the abscess opens within the cavity of the uterus, and escapes through the os uteri; in which case the woman may recover. We have seen two or three instances in which we believe this had occurred."—*Dewees, Diseases of Females,* p. 364.

† Lee, on Diseases of Women, p. 38.

‡ Böer, Natürliche Geburtshülfe, vol. i. p. 202.

§ Siebold's Journal, vol. xi. p. 62.

The size of the uterus is manifestly increased,* and its substance soft and flabby. Small collections of purulent matter are sometimes found in its parietes, which in these spots exhibit various degrees of absorption.†

The substance of the uterus may be, in patches, reduced to a mere pulp, of a dark purple, yellowish, or greyish color, and occasionally of a bad odour.‡ This softening generally commences at the inner membrane, and penetrates more or less through the substance of the uterus.

* "On dissection, we had additional and undeniable proofs that the uterus was affected in this complaint; not in some cases from its apparent vascularity, or change of structure, but from its size."—*Campbell's Midwifery*, p. 189.

"Sometimes a purulent, viscous, but fluid deposit, is spread over the uterus, which is immersed in the sero-lactiform fluid diffused through the peritoneum; at other times, false membranes, of some thickness, and large greenish flakes, composed of albumen or fibrine, are accumulated between this organ and the bladder on the one side, and the rectum on the other. Sometimes these soft, dun-like, yellow, or whitish concretions, entirely cover the uterus, glueing it to the intestines; and if the affection be of some continuance, they change its form externally, depressing it in some points, and raising it in others, corresponding with the depressions and projections of the viscera with which it is in contact."—*Boivin and Dugès, Diseases of Uterus. Heming's Trans.* p. 320.

† "Pus is sometimes found even in the substance, and generally nearer to the exterior surface than the interior: this pus collects into distinct abscesses, from one to five inches in diameter; sometimes into a simple, or multilocular deposit, with a greenish or viscous appearance; at other times it is infiltrated into the fleshy fibres, imparting to them a yellow, reddish color, perceptible through the peritoneum. In this latter case, tumors form, which are sometimes hard and projecting, upon the fundus uteri; at other times flattened, soft, and broad; these latter come further down towards the lateral parts, and often form a continuation, together with purulent infiltrations between the laminæ of the broad ligaments, with the cellular tissue of the pelvis, and the substance of the ligament of the ovarian vessels, frequently giving rise to those large abscesses of which we have already spoken."—*Boivin and Dugès, Diseases of the Uterus, &c.* p. 326.

‡ "Its substance is soft and flabby, and its contractile powers so thoroughly suspended as to present no diminution of its volume. It is as large ten days after delivery as it was immediately after the expulsion of the placenta. Small abscesses are found occupying various depths of the uterine walls. There are patches of thoroughly dissolved uterine matter, the softening almost always commencing in the inner

"The point of insertion of the placenta," observes Dr. Fergnson, "is the most ordinary seat of all uterine lesion, whether of abscess, softening, or phlebitis; the next point, the large and congested, lead-colored cervix uteri."

False membranes of coagulable lymph are found on the lining membrane of the cavity, mixed with blood and lochia.

The *cause* of this peculiar softening has been much debated, some attributing it to a specific action of the parts, or to alteration of the blood, and others to inflammation; with the latter of whom I am disposed to agree.

652. *Diagnosis.*—When complicated with peritonitis, the diagnosis

surface of the viscus, and sinking towards its peritoneal coat."—*Ferguson, on Puerperal Fever*, p. 37.

See also M. Nonat's Essay, in Revûe Med. Franç. et Etrang. 1837.

"M. Tonnellè also states, that the disorder in Paris assumed two different forms—the softening of the uterus, properly so called, and the putrescence. In one form, the softening affected only the internal membrane of the uterus, and it presented itself under the appearance of irregular superficial patches, of a red or brown color, which occupied almost all the points of this surface; its limits were not determined, the diseased tissue passing by irregular gradations, or shades, into the healthy tissue. In the second species, the softening extended deep into the substance of the uterus. The tissue of this organ was so softened, that the fingers could not seize it without passing through it in all parts. The superficial softening was combined almost always with some alteration of structure—peritonitis, metritis, or uterine phlebitis; and it did not appear to M. Tonnellè that the existence of these had a very sensible influence on the progress of the symptoms. The softening in the second degree was also sometimes combined with other disorders; but it formed usually the principal alteration, often the only one, and invariably impressed upon the disease the most decided typhoid character."—*Lee, Diseases of Women*, p. 38.

"In other circumstances, where death has followed at a later period, the cervix uteri has presented the same blackish color, with softening, so as to be easily scraped off with the scalpel, under the form of greyish fœtid patch. We have seen a case in which, three months after a difficult labor, the uterus was softish and pale, containing in its interior a fleshy portion as broad as the finger-nail, and two lines in thickness—a real eschar, detached from an ulceration, with a whitish base, and very nearly of the same size. M. Duplay has given a good account of these circumscribed mortifications—these eschars—which he compares with those made by the caustic potass. He has observed them frequently in the cervix uteri, and about the superior angles of the body of the uterus."—*Boivin and Dugès, Diseases of the Uterus*, p. 325.

is very difficult; but when the uterus is alone affected, it is easier to distinguish it.

1. From *after-pains, weed, &c.* it differs very widely, in its persistence, and in the gravity of the accompanying constitutional symptoms.

2. From *puerperal peritonitis.* The most marked distinction between them is the tenderness on pressure; which, when the peritoneal sac is inflamed, is general and superficial, rendering the slightest pressure intolerable; whereas, in hysteritis, the abdomen will bear pressure very well all over, until we ourselves feel that we are pressing the enlarged and hardened uterus. The only exceptions to this rule I have met with are those cases of peritonitis where there is no abdominal tenderness.

The pulse, in hysteritis, is weaker, and the patient sinks more rapidly than in peritonitis; the lochia are also more frequently disordered.

653. *Prognosis.*—In the severe form, the prognosis is in almost every case unfavorable; but of the milder cases, I have seen many recover.

654. *Treatment.*—In the mild variety, venæsection will be necessary, followed by leeches, poultices, and fomentations. The benefit of calomel and opium is seen here even more strikingly than in peritonitis; most patients recover who are brought fairly under their influence. If the calomel disturb the bowels, it should be omitted, and the opium given alone.

When the acute stage is passed, I have seen great benefit from a succession of blisters over the region of the uterus.

The bowels should be kept free; but active purging is injurious. Enemata of castor oil and turpentine answer the purpose very well.

None of our remedies seem to have much power over the severe form; but antiphlogistics must be tried in the early stage; subsequently, opium, and tonics or stimulants, with counter-irritation, are our only resources.

655. IV. Inflammation of the Uterine Appendages.—Under this head is included inflammation of the serous membrane, and proper tissue of the ovaries, fallopian tubes, and broad ligaments.

It is not always possible to separate these affections from inflammation of the peritoneal cavity, with which they are so often conjoined; but there are cases in which they exist alone, or predominate in a striking manner, or where the consequences of the disease continue longer in these parts.

Puzos has described such cases by the term, "*Depots laiteux dans l'hypogastre,*" and Levret, as "*Engorgemens laiteux dans le bassin.*"

The observations of MM. Husson and Dance likewise prove that this is a frequent, and often fatal termination of inflammation of the peritoneal coat of the uterus, and its appendages.

M. Tonnellè found 58 cases of inflammation of the ovary, and 4 of abscess, out of 190 cases of puerperal fever.

656. *Symptoms.*—As inflammation of the uterine appendages is generally combined with more or less inflammation of the peritoneal sac, it consequently presents similar symptoms; but in addition, we find local distress in the situation of these appendages.

The pain is somewhat less acute than in general peritonitis, and is seated in one of the iliac fossæ, or the lateral parts of the hypogastrium, extending to the groins, and down the thighs, accompanied with great tenderness on pressure

An examination *per vaginam* will often throw light upon the disease; that canal will be found hot and painful at the upper part, and in some cases a tumor may be discovered through its parietes, laterally.

The disease generally commences with rigors, thirst, head-ache, quick pulse, &c. presenting an array of constitutional symptoms very similar to those in peritonitis, which, therefore, I need not repeat.

If the disease be extensive, there is generally observed much exhaustion following the first stage, and the attack may prove quickly fatal.

657. Should the disease not prove fatal, the attack may terminate—

1. *In resolution*, without the organs being seriously injured: or in some cases adhesions may be formed between the contiguous portions of the serous membrane, which though for the present innoxious, may be injurious subsequently. Boivin and Dugès relate a case in which anteversion was caused by these adhesions. If the fallopian tubes have been involved, the cavity of one or both may be obliterated, or they may become adherent to some neighbouring part, so as to prevent altogether the fulfilment of their functions.

2. *In suppuration.* Matter may form in either ovary, or broad ligament, and escape into the peritoneal sac, through the parietes of the vagina or rectum, or through the abdominal parietes.* I have seen examples of each of these varieties, though in my experience the opening has been most frequently into the rectum.†

658. *Morbid Anatomy.* In some cases, we find on dissection that the disease has been confined to the serous membrane, presenting similar appearances to those already noticed; thickening, effusion of lymph, serum, &c.

The broad ligaments, fallopian tubes, and ovaria, are red and vascular. The morsus diaboli is of a vivid red color, and sometimes softened, and in its cavity, or under the peritoneum, deposits of pus may be discovered.‡

* Dr. John Clarke's Essays, p. 72.

† Med. Gazette, Jan. 24, 1840.

‡ "Inflammation is often observed running along the fallopian

Effusion of serum, or purulent matter, may also be found between the folds of the broad ligaments.

The ovaria may be imbedded in lymph, the product of inflammation of their serous coat. Sometimes they are swollen, red, and pulpy.* One or both of these organs may be affected. Dr. Gordon mentions that in his cases of puerperal, the right ovary was always diseased, and the left healthy.

tubes, which, when cut open, will be seen loaded with blood. The ovaria, too, are often affected in the same way."—*Dr. John Clarke's Essays*, p. 63.

"Pus is also found in the cavity of the fallopian tubes; and also in the substance of the ovaria, which are in some cases distended by inflammation and matter, so as to equal in bulk a pigeon's egg."—*Dr. John Clarke's Essays*, p. 64.

* "The ovaria and fallopian tubes are softened, and deeply injected with blood, serum, lymph, or pus—affording therefore lesions, depending for their variety of consistence, color, and tinges, on various combinations of these fluids."—*Ferguson, on Puerperal Fever*, p. 38.

"Numerous important changes have likewise been seen in the structure of the ovaria. Their peritoneal surface has been red, vascular, and imbedded in lymph, without any visible alteration of their parenchymatous structure; or their whole volume has been greatly enlarged, swollen, red, and pulpy; blood has been effused into the vesicles of De Graaf, or around them, and circumscribed collections of pus have been found dispersed throughout the substance of the enlarged ovaria. In several cases which have come under my own observation, the entire structure of the ovaria has been reduced to a vascular pulp, all traces of their natural organization being imperceptible."

"The ovarium appeared in one instance, which came under my care, to be converted into a large cyst, containing pus, which had contracted adhesions with the abdominal parietes, and discharged its contents externally, through an ulcerated opening. In another case, which proved fatal, the inflamed uterine appendages, agglutinated together, had contracted adhesions with the peritoneum, at the brim of the pelvis—the inflammation having extended to the cellular membrane exterior to the peritoneum, and occasioned an extensive collection of pus, in the course of the psoas and iliacus internus muscles, similar to what takes place in lumbar abscess. In three other individuals under my care, who ultimately recovered, the purulent matter formed along the brim of the pelvis made its way under Poupart's ligament, to the upper part of the thigh, and escaped through an opening formed in that region. In all these cases, contraction of the thigh on the pelvis took place, which remained for several months."—*Lee, on Diseases of Women*, p. 26.

Upon laying open the ovaries, their structure will be found more or less diseased. There is a great increase of vascularity, and frequently a softening of the proper tissue. In a few cases, it is utterly disorganised.

Blood is sometimes effused into the Graafian vesicles, so as to destroy their texture.

Pus may be found in small masses throughout the ovary, or that organ may be reduced to a sac, containing purulent matter, which often escapes through artificial openings, as already noticed.

659. *Diagnosis.*—The situation of the pain and tenderness, and the information obtained by an internal examination, are the only ground of diagnosis—and an uncertain one, it must be confessed—during the acute state.

If the disease pass into a chronic stage, and an abscess form, these means will render the case sufficiently clear. The case in the Meath Hospital was detected in this way, before the matter could be discovered from the surface.

660. *Treatment.*—Venæsection; but after one bleeding from the arm, it will be more beneficial to apply leeches to the tender part, followed by poultices. Calomel and opium will be as necessary and as useful here, during the acute stage, as in the disease previously described.

Vaginal injections of warm water, and hip baths, will be found very soothing.

If an abscess form, and the pus comes near the abdominal surface, it will be advisable to make an incision through the integuments at least, in order to facilitate its escape; and if much matter be discharged, it may be necessary to give tonics, with wine, and a generous diet, to support the strength.

661. The foregoing description applies to those cases which occur as a variety of puerperal fever; but inflammation and abscess may occur at a greater distance of time after delivery, without previous confinement, or even in virgins, of which several examples have occurred to me. Without entering into very full detail, I shall give a summary of the peculiarities of the disease in this place, for want of a more fitting opportunity.

This species of more chronic inflammation of the uterine appendages may occur, though rarely, independently of pregnancy or labor, but far more frequently after labor, and at varying intervals: the first intimations being perceived in some cases from three to ten days after delivery, and in others not until the lapse of some weeks.

662. *Causes.*—It is very difficult to assign any special *cause* for the attack. It may follow blows, falls, or a fright; or more frequently result from cold, or from excessive sexual intercourse.

From the coincident suppression of the milk or the lochia, it is sometimes attributed to either accident.

That it may occur in consequence of the long-continued pressure of

the child's head in lingering labor I do not doubt, but it is evident that this is not a frequent cause, as most of the cases occurred after natural labor.

Lastly, it may be the termination of acute inflammation.

663. *Invasion.*—The mode of invasion varies a good deal.

a. In certain cases there are few, if any, preliminary symptoms; uneasiness perhaps, but not amounting to pain, in one iliac region, and upon placing her hand on the spot, the patient detects a tumor.

b. Or, after a favorable convalescence for some days, just as the usual term of our attendance expires, the patient experiences a slight febrile attack, with some shooting pains in the abdomen, which subside after a time, though the fever remains without any apparent cause, until, in the course of time, the disease is developed.

c. Again, in other cases, the attack is local, and its nature pretty evident; from the beginning there is pain in one or other iliac region, tenderness, and shortly after, tumefaction, with fever.

d. Lastly, the affection may at first assume the character of a more general affection of the peritoneum, the pain extending over the abdomen, occurring mainly in paroxysms, with tenderness on pressure, and fever; but by and by, the general tenderness and extended pain subside, and become localized, by which the character of the attack is determined.

664. *Symptoms.*—Having briefly alluded to the various modes in which the disease commences, I prefer taking the symptoms in the order of their importance and prevalence, rather than in that of succession.

a. The presence of tumefaction, or of a distinct tumor, is invariable; it occurs in all cases, and characterises the disease. It may be found completely above Poupart's ligament, above the linea ilio-pectinea, sometimes occupying one iliac fossa entirely, and even extending upwards nearly to the umbilicus, and forwards to the linea alba.

Or it may be situated more deeply in the pelvis, just reaching to Poupart's ligament, protruding the groin, and from its fixedness giving the impression of its being firmly connected with these parts. In the former case the tumor is larger, more defined, and far more moveable: in the latter it is rather undefined, immoveable, and more painful. In both it is equally hard, in fact as hard as stone until suppuration commences, and equally tender on pressure. If a vaginal examination be made in the former case, we do not always discover any change; the vagina may be cool, no tumefaction may be detected, and movement of the uterus may occasion but little pain. But in the latter cases, and also in the former when the inflammation is much diffused, the vagina is hot, somewhat tender; and at one of its sides, or at its upper part, in the "cul de sac" on one side of the cervix uteri, a hard painful swelling is observed, evidently connected with the tumor in the groin, and in these cases the uterus cannot be moved without acute pain.

b. Although it may be developed at different periods, yet sooner or later, pain is an accompaniment of the disease. It maintains, as it were, its seat in the tumor, from whence stings of pain radiate in all directions. When the the tumor is high, that is, above the brim of the pelvis, the pain is more limited to the tumor: when situated in the pelvis and groin, it extends across that cavity, down to the anus, to the back, and down the thigh. In these cases it is almost always difficult, in some cases quite impossible, to straighten the thigh, so as to stand upright. Walking, too, is both difficult and painful.

c. In these latter cases, also, when the tumor occupies a portion of the pelvic cavity, we often find the patient distressed by tenesmus, and a desire to make water, the consequence, probably, of an extension of the irritation to the bladder and rectum. Occasionally, when the tumor is large, it offers a mechanical impediment to the functions of these viscera, and the patient may suffer from dysuria, or be unable to evacuate the intestinal canal.

d. The amount of fever, as well as the time of its setting in, varies. In some cases it precedes or accompanies the first local symptoms; in others, it supervenes after the tumor has been detected some time. In a few cases it is almost confined to the evening, and during the process of suppuration there are, in almost all cases, evening exacerbations.

The pulse ranges from 90 to 110; the tongue is loaded, the skin hot, the thirst considerable, and the urine high colored. The appetite is always bad.

These symptoms are somewhat mitigated, or at least the patient suffers less in cases not connected with parturition.

665. *Terminations.*—After being fully developed, and running on even for a considerable time, the disease may terminate:

A. *In resolution.*— This most frequently occurs with cases in which the tumor is above the brim, and limited in extent; and in such we find the pain diminishing, and ultimately ceasing, the tumor first becoming less tender, then less in size, until at length it disappears. This process will occupy from one to three months.

B. *In abscess.*—When suppuration takes place we can generally feel a degree of softening, with an obscure sense of fluctuation in the tumor either externally or internally; the patient complains of more throbbing, and occasionally of rigors, and by degrees (if not anticipated) the coverings are thinned, and the matter may escape—

a. Externally, through the abdominal parietes covering the tumor.

b. Into the peritoneum, where it gives rise to peritonitis, always alarming, but not always fatal

c. Into the vagina, through which the matter escapes.

d. Into the bladder, or intestinal canal, and especially the rectum,* with evacuation of matter per stool.

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* Boivin and Dugès' "Diseases of the Uterus," page 578. Trans.

e. Into the surrounding cellular tissue, where it may burrow until it finds an outlet.

The matter may be evacuated by any of these "routes;" and if the opening be sufficiently large, the sac may be emptied, and the abscess fill up and heal. But if the opening be small, the discharge may continue for an indefinite length of time, the opening remaining fistulous, and the cure being proportionably difficult.

Lastly. The extent of the disease, or the secondary affections caused by it, may prove fatal after an indefinite length of time.

666. *Diagnosis.*—A good deal of light will be thrown upon the diagnosis, when the disease occurs within a reasonable time after parturition, and especially when the patient has suffered from abdominal pain: in such cases, if we discover a tumor in one of the iliac fossæ, with tenderness and pain, we shall have adequate grounds for diagnosticating this affection.

If, however, the attack occur independently of child-bearing, or at a considerable interval afterwards, there may be difficulty in distinguishing between it and some of the chronic organic diseases of the ovary, especially when the tumor is above the pelvic brim: our safest guide, probably, will be the amount of pain and constitutional disturbance, which is much greater in the disease I have been describing.

I have known this affection mistaken for sciatica; and when the tumefaction is mainly confined to the pelvis, and pressure is made upon the nerves issuing from that cavity, the pain may be limited to the track of the nerves, so as to deceive any but a careful observer. However, a minute investigation will probably enable us to trace the pain into the pelvis, and then an external and especially an internal examination will at once reveal the cause of the pain.

The flexion of the thigh, which alone might also mislead, will of itself lead to an examination of the groin, and so to the detection of the tumor.

667. *Treatment.*—The indications of cure are 1, to procure resolution of the tumefaction; or 2, to promote suppuration and evacuation of the matter.

1. If we are called in at an early period of the attack, it is often possible to arrest its progress, as has been well remarked by Dr. Doherty; nay, even where the disease has lasted some time, as in the cases mentioned by Puzos, it is in some cases quite possible to procure resolution. For this purpose Mauriceau, and the author just named, advise repeated venæsection, with purgatives, alteratives, absorbents, &c. I believe that the repeated application of leeches will be found more effectual at less expense of strength. A dozen should be applied over the tumor, followed by bran poultices, and repeated if necessary, *i. e.* if the pain and throbbing be not relieved. If we succeed in arresting the progress of the inflammation, a succession of small blisters will be of great use. Fomentations, and an occasional hip-bath, also afford great relief to the patient; but still more comfort is derived from vaginal injections of warm water twice a-day.

Internally, we may exhibit mercury in small doses, perhaps even so far as to affect the gums, and an occasional purgative; but I confess I am not convinced that brisk purgation is beneficial. In some cases I am certain that it increases the pain. If the pain prevent sleep, an opiate may be given.

When the disease shows signs of yielding, I have seen benefit derived from an application of the empl. hydrargyri. The diet should be bland and nutritious, but unstimulating.

2. If, however, notwithstanding the prompt and sedulous use of the means I have indicated, the disease should not yield, we may be sure that suppuration will take place; and our object then will be to promote this by fomentations and poultices constantly applied.

The formation of matter will sometimes be indicated by rigors, but in many cases it is by the touch only that we can recognize this occurrence. I cannot too strongly impress upon my readers the advantage of making an opening into the abscess when it is possible, and so deciding the course which the matter is to take, instead of leaving it to burrow and make an opening in some dangerous situation.

The best situation for the opening is through the abdominal parietes; the next, through the vagina. If from the high situation and mobility of the tumor, we fear that, when opened, the matter may escape into the peritoneal cavity, we might adopt the plan so successfully practised in abscess of the liver by Dr. Graves, and cut down to, but not through, the parietal peritoneum, and then apply poultices, with little doubt but that the matter will ultimately make its appearance through the wound.

Should the abscess open spontaneously, we must counteract as well as possible any unpleasant consequences which may result; but whether opened spontaneously or by the knife, we must endeavour to empty the sac, and to secure a free exit for the matter as it is secreted, by which means we shall avoid the prolongation of the disease, and all the distress of a fistulous communication.

When the matter has been fairly evacuated, the diet must be generous, and a full share of wine or porter allowed.

668. V. Inflammation of the Veins of the Uterus, or Uterine Phlebitis.—This form of disease has been frequently noticed by authors; amongst others, by Drs. J. Clarke, Waller, Meckel,*

* "All the veins," Meckel observes, "which surround the uterus, or hypogastric trunks, and the vena cava inferior, were greatly enlarged in volume. The place where the placenta had adhered was distinguished at the posterior part of the uterus by a fungous mass. The veins, whose exterior appearance had arrested the attention, were examined with care; they were separated from the surrounding cellular substance, and in this state the whole system of uterine and spermatic

Ribes, Louis, Dance, Tonnellè, Burns, Lee, Boivin and Dugès, Ferguson, &c.; and recently in a series of papers on 'Metro-peritonite,' by M. Nonat.*

Nor is it very rare; for M. Tonnellè found pus in the veins in 93 cases; and in the thoracic duct in 3 cases out of 134; and Dr. Robt. Lee, in 45 cases, had 24 of uterine phlebitis.

669. *Causes.*—Dr. Robt. Lee considers that it may be the result of mechanical injury to the uterus, either during the labor, or by the force used to extract the placenta. "Uterine phlebitis," says Dr. R. Lee, "appears to result from the mechanical injury inflicted upon the uterus by protracted labor, from the force required for the extraction of the placenta in uterine hemorrhage, from retained portions of the placenta undergoing decomposition in the uterus; the application of cold, and perhaps of contagion; or from any of the causes which produce the other varieties of uterine inflammation. M. Dance considers deranged states of the lochia to be a frequent cause of the disease; but these are consequences, and not causes of uterine phlebitis."†

It may follow after hemorrhage, or arise from cold, or the decomposition of retained portions of the placenta.

It may be excited by any of the causes of the other varieties of puerperal fever.

Dr. Bartsch observes, "As to the *causes* under which uterine phlebitis was developed, we found it occurring most frequently—

1. In women who approached the critical age of life, especially if they were primiparous.

2. In women affected with varicose tumors of the thigh, and external genital organs.

3. In females who, during pregnancy, were submitted to the influence of depressing passions, fear of exposure, jealousy, sorrow, &c.

4. In individuals who, from the symptoms they presented, had frequently employed abortive remedies.

5. From mechanical injury of the uterus during pregnancy, especially if it were followed by abortion.

6. In females subject to chronic disease, as cough, difficult menstrua-

veins presented an extraordinary augmentation of the calibre of the vessels, and thickness of their coats. When opened, there escaped from them a true purulent fluid. The vena cava, where the right renal vein entered, presented a resisting tumefaction, and when laid open, its coats were double the natural thickness, and the cavity was filled with pus, and a polypus formed of pseudo-membranous and puriform concretions."—*De vasorum sanguiferorum inflammatione. Auctore, J. G. Sasse. Halle,* 1797. *Lee,* p. 58.

* Revûe Med. Franc. et Etrang. for 1837.

† Diseases of Women, p. 54.

tion, hemorrhoids, fluor albus, chronic diarrhœa, and constitutional syphilis.

7. After flooding, during or after delivery, especially from placenta prævia; after difficult labors; after obstetrical operations, especially those requiring the introduction of the hand into the uterus.

8. Finally, the greater number of cases occurred in the months of February, March, April, and May, in females who the year before had been attacked by the grippe."*

670. *Symptoms.*—In women of previous good health, the attack commences generally in 24 or 36 hours after delivery. The patient complains of pain in the uterus, more or less acute, preceded, accompanied, or followed by rigors.

The uterus is tender on pressure, and the lochia and milk are both suppressed.

There is head-ache, and slight incoherence—a sense of general uneasiness, and sometimes nausea and vomiting, with acceleration of the pulse.

After a time these symptoms are succeeded by increased heat of surface, tremors of the muscles of the face and extremities, great thirst, dry brown tongue, frequent vomiting of green fluid, rapid full pulse, hurried respiration, &c.

The head becomes more involved, and we find the patient in a state of drowsy insensibility, or violent delirium and agitation, followed by extreme exhaustion.

The surface of the body assumes a deep sallow or yellow color; and occasionally petechial or vesicular eruptions have been observed on different parts of the body.

The pain may or may not increase, but the uterine tenderness is certainly augmented, and the abdomen is often swollen and tympanitic.

In some very rare cases there is little or no local distress, and the existence of the disease could not be discovered except for the secondary affections. Such has been the case with several patients under my care. One had no uterine pain or disturbance; no tenderness on pressure; and yet, on the seventh day after delivery, a smart febrile attack preceded the formation of a large abscess, near the left elbow joint. Since then a second has followed, on the top of the shoulder, and a third in the right arm, above the elbow.

The patient may die during the acute stage, but the majority live longer, and exhibit the most interesting phenomena connected with this variety of puerperal fever, and distinguishing it from all others. I allude to the secondary diseases of other organs.

671. The *brain*, though often functionally disturbed, (135 in 304, *Lee and Ferguson*), is not frequently the seat of organic disease. Its

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* Report in *Lancet*, April 16th, 1836.

vessels are sometimes congested, and lymph is effused in the pia mater, or serum into the ventricles. According to M. Dugès, there is arachnitis once in 266 cases.

Portions of the brain are occasionally softened and disorganised; or there is purulent infiltration into the cerebral substance.

In the *chest* we find evidences of inflammation of the pleuræ, effusion of serum of the same character as that in the peritoneal sac, and occasionally effusion of blood.

M. Tonnellè found	pleurisy	in 29 cases.
	effusion of serum	in 8 ,,
	effusion of blood	in 6 ,,

The *lungs* are often greatly condensed, of a dark red color, with infiltration of purulent matter. Or they may be in a state of "complete dissolution, having all the characteristics of gangræne, except in many cases its peculiar fœtor."

M. Tonnelle found	pneumonia	in 10 cases.
	tubercles	in 4 ,,
	abscess	in 8 ,,
	gangrene	in 3 ,,
	pulmonary apoplexy	in 2 ,,

The symptoms of the secondary affection in these cases, (cough, dyspnœa, &c.) are but slight, and are completely masked by the more serious primary disease."*

"The *heart* is often enlarged, softened, and friable; its inner membrane deeply stained; lymph and serum are also occasionally found in the pericardium. There are white patches on the outer covering of the heart. I have never remarked any peculiar disorganization of the great arteries; they are often intensely stained."

The *intestinal canal* is not frequently the seat of organic change. The mucous membrane of the stomach is sometimes inflamed, softened, and occasionally its coats are perforated, giving rise to peritonitis.†

* "In four cases which have fallen under my observation, where there had been only obscure pain during life, with slight cough and dyspnœa, copious effusion of lymph and serum was found within the cavities of the thorax; the pleura was covered with false membranes, and portions of the lungs had fallen into a state of complete gangræne. In one individual, the pleura had given way by sloughing; and the right side of the chest was found distended with air. Gangræne, also, sometimes takes place rapidly in those parts of the body on which the patient rests; and the same process is established in other soft parts, where no pressure has been made. In a case related by Cruveilhier, which did not prove fatal, the nose became black and gangrenous."—*Lee, Diseases of Women*, p. 49.

† "Dugès has remarked that the brown viscid matter, exuding from the perforated portion of the stomach, seems to act on the neigh-

Between the mucous and muscular tissues there is an effusion of clear reddish serum, when the vomiting has been excessive.*

The mucous membrane of the intestines also may be softened, and the walls of the canal perforated.

M. Tonnellè found	gastro-enteritis	in 1 case.
	enteritis	in 4 cases.
	entero-colitis	in 1 case.
	the stomach softened	in 8 cases.
	the stomach ulcerated	in 5 ,,
	the stomach perforated	in 5 ,,

The *liver* is occasionally diseased—its substance may be congested, softened, or contain abscesses. M. Tonnelle met three cases of abscess in the liver.

The structure of the *spleen* may be softened and disorganized. M. Tonnellè relates two cases of abscess.

"The *kidneys* present inflammation of their peritoneal coat, depositions of pus, and flakes of lymph, alterations in their veins, softening, and great engorgement: both kidneys are rarely attacked at once." "The ureters and bladder are more often the seat of pain and congestion than of disorganized structure."†

The *eyes* are also affected. The conjunctiva becomes inflamed, the eyelids swollen, lymph is effused into the anterior chamber, and the sight is destroyed.‡ Cases of this kind are related by Dr. M. Hall and Mr. Higginbotham, although not by them attributed to uterine phlebitis.§

The *joints* are attacked by inflammation, and sometimes the cartilages by ulceration; and the various products of inflammation are

bouring organs like a caustic—adducing as a proof of this surmise, the fact of his finding a continuous series of perforations of the diaphragm, mediastinum, esophagus, and lungs—all in the immediate vicinity of a perforation of the large extremity of the stomach."—*Ferguson, on Puerperal Fever*, p. 36.

* "Out of twenty-seven cases collected from Ribes, Bouillaud, Velpeau, and Legallois, I find but six in which this membrane was altered, and twenty-one in which it was quite free from the marks of disease. The principal changes are—1, inflamed patches; 2, softening and perforation; 3, ulceration."—*Ferguson, on Puerperal Fever*, p. 35.

† Ibid, p. 37.

‡ "In two cases which came under my care, the conjunctiva of both eyes, without much pain, suddenly became intensely red; the cornea opaque, and the eyelids much swollen; and under their lining membrane, a large serous deposition took place; lymph and pus were also effused into the anterior chamber; and in one, the cornea ultimately burst."—*Lee*, p. 50.

§ Med. Chir. Trans. vol. xiii.

found in the capsular ligaments.* M. Dugès has thus placed the joints in the order of frequency of disease: 1, the hip; 2, the elbow; 3, the knee; 4, the foot; 5, the metacarpus; 6, the shoulder. Dr. Ferguson has found the elbow and knee more frequently affected than the hip.

M. Tonnellè met six cases of abscess of the knee; two of the elbow; and two of the symphysis pubis.

Sero-sanguineous fluid may be effused into the *muscles* or cellular substance of the limbs, giving to them the appearance of erisipelas. M. Tonnellè mentions three such cases.

As to the extent of this infiltration, it may be circumscribed within a few inches, or extend between two joints, but rarely occupying the whole limb.

An *abscess* may be formed in the muscles or cellular membrane of a limb; or a succession of abscesses may occur, as in the case I have mentioned; or the pus may be diffused through the various soft structures.†

The quantity is sometimes enormous; the patient suffers much pain, and may be seriously injured, if the discharge continue long.

The symptoms in the latter case, are those met with ordinarily in abscess, except at the beginning they sometimes resemble a rheumatic attack.

672. *Morbid Anatomy.*—The primary morbid change is evidently in the veins of the uterine region; their coats are thickened, and sometimes so much contracted as to render the canal impervious. The

* Deposits, or infiltrations of pus, of enormous extent, also take place into the cellular membrane in the neighbourhood of the large joints, and between the muscles of the extremities; the cartilages of the joints themselves become ulcerated, and pus is formed within their capsular ligaments. In a recent case of uterine phlebitis, the cartilage at the symphysis pubis had been removed by ulceration, and a quantity of purulent fluid deposited within the capsular ligaments between the naked extremities of the bones."—*Lee, on Puerperal Fever*, p. 50. See M. Nonat, on Metro-Peritonitis, Revûe Medicale, 1837. Also, Dr. Thos. Beatty's paper in the Dublin Journal, vol. xvi. p. 340.

† M. Tonnellè states, that the integuments covering the deep abscesses resulting from uterine phlebitis, are always of a violet color, or present a peculiar characteristic tension, and shining appearance. The inflammation is not confined to certain defined limits, so as to form circumscribed abscesses; but the pus is diffused, and disappears by an insensible transition into the surrounding parts. When pus is deposited in the muscles, the fibres become of a grey color, and softened. M. Tonnellè also states that he has frequently seen the pus in little abscesses among the muscles, when their fibres were not altered in appearance."—*Lee, Diseases of Women*, p. 50.

lining membrane is generally paler, and coated with lymph or pus, which may extend to a considerable distance.*

The disease may be confined to the veins of the uterus, or may involve those of neighbouring parts.† The spermatic vein is the one most frequently affected—then the hypogastric; but it may involve the renal veins, as far as the kidneys, or even the vena cava.

It is remarkable ,that it is generally the veins of one side only that are affected, and that side is the one to which the placenta was attached.

When the disease affects veins distant from the uterus, the surrounding cellular tissue is hardened, and contains puriform matter.

Dr. Ferguson remarks, "In a certain number of cases no lesion can be discovered in the vein, but the presence of some unnatural fluid. It is disputed whether it is absorbed, or the product of venous inflammation. It is of little moment which of the two opinions be adopted; the disease depends not upon how the matter is produced, but whether it enters the circulation. Whether this be by absorption or by inflammation, puerperal fever is the result."

673. *Diagnosis.*—It may in many cases be extremely difficult to distinguish this from the other varieties, at least in the early stage.

Generally speaking, the pain and tenderness are more local and limited than in *peritonitis*, and at an advanced period, the presence of the secondary disease will at once indicate its true character.

* "The lining membrane (of the veins) is very often quite pale, though covered with false membrane, or with pus. Their coats are thickened, and their cavities obliterated or contracted from interval to interval, when the disease extends beyond the uterine substance. When the neighbouring veins are affected, the adjacent cellular membrane is hardened or infiltrated; or forms a bed for purulent matter. The uterine veins are often found perfectly healthy, when spermatic or renal, and still more distant veins, are thoroughly disorganized. Besides the presence of pus and lymph in the veins, gritty and grey or light brown coagula are found. The mass of the blood not unfrequently retains its fluidity after death."—*Ferguson on Puerperal Fever*, p. 39.

† "It is in the lateral veins, at the point where they are collected together to leave the uterus, and merge into the plexus of the ovarian veins, that this fluid is most commonly found; in some rare instances, all the uterine sinuses are filled, and even distended with it; sometimes there are albuminous concretions mixed with the fluid; even the veins are occasionally obliterated by a yellow concrete matter. When the substance is entirely fluid, the interior of the vessels is of a light rose color, whitish and smooth, and often even pale and yellowish. We have observed, though only twelve or fifteen times, that this inner surface was uneven, and adherent to the albuminous flakes."—*Boivin and Duges, Diseases of the Uterus*, p. 327.

674. *Treatment.*—Severe cases of this species of puerperal fever appear to defy all our resources. When it is the prevailing characteristic of an epidemic, the vast majority will die.

"The two indications," says Dr. Ferguson, "are—1. To attend to the local lesions. 2. Never to forget that these are not the cause, but merely the effects of a more diffusive, though concealed cause, to act on which our remedies should be directed. The rationale of the treatment, therefore, consists in the exhibition of such remedies as will act on this cause, and such as will alleviate or remove the local affections; taking care that in our attempt to effect the latter end, we do not so act on the constitution as to give additional energy to the more deadly power of the concealed cause."

This rule should direct our employment of leeches, blisters, calomel, opium, &c. in the early stage, and stimulants and tonics in the latter.

Dr. R. Lee says that "The French physicians, however, are of a contrary opinion, and are satisfied that we possess a powerful remedy, even in the worst cases, in mercury, employed so as to excite salivation. In several cases of uterine phlebitis, I have employed this remedy to a great extent, externally, and speedily brought the system under its influence: yet the progress of the symptoms was not arrested; and the patients died as others had done, when the mercury had not been administered. In other cases I have employed mercury to a great extent, internally, without the slightest benefit; and it may justly be doubted, from the results of M. Desormeaux' practice, whether or not it possesses the influence M. Tonnellè supposes; for of forty-three cases where mercury was used by him as the chief remedy, only fourteen recovered."*

Dr. Copland speaks in a more hopeful tone as to the results of treatment. "Hunter's treatment of phlebitis," he says, "was powerfully tonic, stimulant, and restorative, and he directed it with the view, correct both in pathology and therapeutics, of enabling the vessels of the diseased part to throw out lymph capable of coagulation, and of assisting the powers of life by these and other means, to resist the progress and retrieve the consequences of the disease." Dr. Copland advises a small venæsection, or leeches if necessary, and afterwards turpentine fomentations, a full dose of calomel, camphor, and opium, followed by turpentine, by the mouth and in form of enema. "In most instances the intention is not so much to evacuate the bowels, (for they are often sufficiently open), as it is to exhibit a remedy which is calculated, by its passage into the circulation, at least partially to resist the changes taking place in the blood and vascular system generally, and at the same time to procure the discharge, both from the bowels and from the uterus, of such morbid matters as would be inevitably most injurious if retained even for a short period." Dr. Copland seems to have obtained

* Diseases of Women, p. 113.

more favorable results from the use of turpentine than most other practitioners. In Dublin, although it is occasionally beneficial, I do not know that much confidence is placed in it.

I feel very much inclined to agree with Dr. Copland, that probably "no other plan of cure will be found more beneficial for it than that now advised; that no other than powerfully restorative, tonic, and soothing means will be found beneficial in this form of phlebitis, or indeed in any other."*

675. VI. INFLAMMATION OF THE UTERINE LYMPHATICS.—This variety of puerperal affection was first noticed in France by M. Dance; and since by Boivin and Dugès,† Tonnellé, Duplay, Cruveilhier, and Nonat;‡ the former found pus in the lymphatics in thirty-two cases, and in the thoracic duct in three.

In this country it was first recorded by Dr. R. Lee, in the following case, published in the Medico-Chirurgical Transactions:

"A woman, æt. 30, in an advanced stage of pregnancy, was admitted into St. George's Hospital, July 1, 1829, under the care of Mr. Cæsar Hawkins, in consequence of sloughing of the skin covering a diseased bursa of the patella. The removal of the bursa was followed by great constitutional disturbance, and on the 14th, labor came on. Two days after, symptoms of uterine inflammation made their appearance, and on the 18th day death took place. Though the pain was relieved by bleeding, she never rallied after the attack. On examining the body, some puriform lymph was found in the pelvis, but there was no increase of vascularity in the peritoneum. In the broad ligaments some fluid was also effused, and on each side, numerous large absorbent vessels were observed, passing up with the spermatic vessels to the *receptaculum chyli*, which was unusually distended. All these vessels, and the reservoir itself, were filled with pus; but that in the receptacle was mixed with lymph, so as to be more solid; the vessels themselves were firmer and thicker than usual. The thoracic duct was quite healthy. The uterus was scarcely contracted, and the internal surface of the lower half was soft and shreddy, and in a state of slough. The upper part, where no pus was found externally, was also healthy, or nearly so, on its inner surface."§

* Dict. of Pract. Med. part xiii. p. 535.

† "These knotty vessels (the lymphatics) from half a line to a line and a half in diameter, may be seen, in consequence of their injection with fluid which distends them, in the whole length of the ligaments which contain the ovarian veins; we have observed the lumbar glands, in some cases, lengthened by the pus injected into the vessels; and it has been found even in the thoracic duct."—*Boivin and Dugès, Diseases of the Uterus, &c.* p. 329.

‡ Revue Med Franc. et Etrang. for 1837.

§ Med. Chir. Trans., vol. xv. p. 64. Lee, Diseases of Women, p. 46.

The local symptoms are exceedingly obscure, and the constitutional ones very like those in uterine phlebitis, and quite as severe.*

On dissection, the lymphatics are found distended with pus, and generally at intervals, so as to give them a beaded appearance.

The secondary lesions are much the same as in phlebitis.

676. *Treatment.*—As yet we know of no remedies capable of controlling the disease.

CHAPTER VII.

RUPTURE OF THE UTERUS AND VAGINA.

677. THIS formidable and very fatal accident has long been known to practitioners in midwifery.

It is not, however, confined to the time of parturition, but may occur during gestation, or at a more advanced period of life.

The frequency of its occurrence varies with different practitioners.

In 10,387	cases	Dr. Jos. Clarke met with	8 cases.
2,947	,,	Dr. Merriman met with	1 case.
8,600	,,	referred to by Dr. M'Keever, there were	20 cases.
16,654	,,	Dr. Collins met with	34 cases.
4,180	,,	M. Pacaud† met with	2 cases.

Making a total of 65 cases in 42,768 patients, or about 1 in 657.

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* "The local symptoms of this affection are often so obscure as to escape detection during life, while the constitutional symptoms, which sometimes resemble in a striking manner the effects produced by specific poisons, are so virulent as not to yield to any remedies, however early and vigorously employed."—*Lee, on Puerperal Fever*, p. 48.

"Cruveilhier has attempted to define the effects produced by pus in the lymphatics, as distinguished from those of phlebitis; but after proceeding with a few observations, he throws the matter aside, apparently as inexplicable. There may be, and probably are, some constitutional modifications, whether in the one case the vessels of the red, or those of the white blood, be the seat of purulent infection; but they are yet to be discovered,—neither Breschet in his late work (on the Diseases of the Lymphatics,) nor Cruveilhier, having anything satisfactory on this head. It will be seen, however, that all the effects attributed to phlebitis, strictly so understood, take place equally when the lymphatics alone contain pus."—*Ferguson, on Puerperal Fever*, p. 40.

† Compte Rendu de la Maternitè de Bourg, 1827.

678. Dr. Burns says that it occurs about once in 940 cases. It rarely occurs with first children.

Of Dr. Jos. Clarke's cases:

1	was the	2nd	pregnancy.
1	,,	3rd	,,
2	,,	4th	,,
1	,,	7th	,,
1	,,	8th	,,
1	,,	9th	,,

Of Dr. M'Keever's cases:

4	had	2	children.
5	,,	3	,,
4	,,	6	,,
2	,,	7	,,

For full details upon this subject, I may refer the reader to the following works, among others:—

Denman's Introduction to Midwifery, p. 260.
London Pract. of Midwifery, p. 279.
Hamilton's Outlines of Midwifery, p. 76.
Burns' Principles of Midwifery.
Dewees' Compendium of Midwifery.
Garthshore, on Rupture of the Uterus.
Douglas, on Rupture of the Uterus.
Goldson's Case of Lacerated Vagina.
M'Keever, on Ruptures of the Uterus.
Dr. Merriman, on Difficult Parturition, p. 111.
Dr. Jos. Clarke's Report of the Lying-in Hospital, Dublin. Transactions of Association, vol. i.
Ramsbotham's Pract. Obs. in Midwifery, part i. p. 377.
Collins, Practical Treatise on Midwifery, p. 240.
Hamilton's Pract. Obs. part ii. p 343.
Baudelocque, L'Art des Accouchemens, vol. ii. p. 486.
Capuron, Cours d'Accouchemens, p. 579.
Velpeau, Traite d'Accouch. p. 348. Brussels Ed.
Nauche, Mal. des Femmes, part i. p. 262.
Duparcque, Histoire complete des Ruptures et des Dechirures de l'Uterus, &c. 1836.
Spiering, die Pratische Geburtshülfe, p. 330, 1801.
Hussian, Handbuch der Geburtshülfe, 1827.
Osiander, Handbuch der Entbindungskunst, vol. ii. p. 71.
Carus, Gynæcologie, vol. ii. p. 416.
Joerg, Handbuch der Geburtshülfe, p. 236.
Busch, Lehrbuch der Geburskunde, p. 386.
Siebold, Frauenzimmerkrankheiten, vol. ii. Journal, vol. xv. p. 249.

2 had 8 children.
1 „ 9 „

Of Dr. Ramsbotham's cases:*

2 were 2nd pregnancies.
1 „ 4th „
3 „ 7th „

Of Dr. Collins' 34 cases—

7 were 1st „
6 „ 2nd „
6 „ 3rd „
2 „ 4th „
2 „ 5th „
5 „ 6th „
1 „ 8th „
1 „ 9th „
2 „ 10th „
2 „ 11th „

Dr. Cathrall's case was a first pregnancy.†
Dr. Sims' patient had had several children.‡
Dr. Hooper's case was the 4th pregnancy.§
Mr. Kite's „ „ 2nd pregnancy.‖
Dr. Frizell's „ 7th pregnancy.¶
Mr. Powell's „ „ 1st pregnancy.**
Mr. Birch's cases were the 3rd and 4th pregnancies.††
Mr. Partridge's case was the 7th pregnancy.‡‡

Thus, of 75 cases, 9 occurred in the 1st pregnancy; 14 in the 2nd; 13 in the 3rd; and 37 in the 4th, or subsequent pregnancies.

679. *Causes.*—Various causes may give rise to it, and it may happen at different periods.

1. *During gestation.*—That form of extra-uterine pregnancy which is called *interstitial fœtation* may give rise to it. The ovum, instead of passing direct from the fallopian tube into the uterine cavity, is retained in an interstice of the uterine fibres, where it grows up to a

* "I have never met with a rupture of the uterus in a first lying-in. The accident has happened, in those cases which I have seen, in a subsequent labor; and sometimes after several difficult births, though living children have been expelled."—*Ramsbotham's Pract. Obs.* vol. i. p. 383.

† Med. Facts and Observations, vol. viii. p. 146.

‡ Ibid. p. 150.

§ Mem. of Med. Society, vol. ii. p. 118.

‖ Ibid. vol. iv. p. 253.

¶ Trans. of Association, vol. ii. p. 15.

** Med. Chir. Trans. vol. xii. p. 537.

†† Ibid. vol. xiii. p. 357.

‡‡ Ibid. vol. xix. p. 72.

certain point. As it increases, the outer portion of the uterine parietes becomes gradually thinner by absorption, (as in the case of abscess,) and at length gives way, and the fœtus is precipitated into the abdomen, converting the case into one of ventral fœtation."*

It may also be the consequence of disease, as in Mr. Else's† and Dr. Spark's‡ cases; from softening, and from abscess in the walls, as related by Duparcque.§

Any violent accident, such as a fall or a blow, may give rise to it.||

It sometimes occurs without any assignable cause; the patient, perhaps, is awakened from sleep by it, as in the following case. "In the Medical Repository, vol. vii., Mr. Hot of Bromley relates a case of rupture of the uterus in the sixth month of pregnancy. The patient was awakened from her sleep by a sudden pain about the umbilicus. She had no return of pain, but gradually sank and died. On examination after death, a rupture was found at the fundus uteri, through which the *fœtus*, enveloped in its membranes, had escaped into the abdomen."¶

The following case, which occurred to Mr. Glen of Brompton, is related by Dr. Merriman, in the Appendix to his Synopsis. "The lady was pregnant of her sixth child, and wanted six weeks to the completion of the full period of utero-gestation; her health was generally good, her habit was rather plethoric; but she was active and temperate. In her former parturitions she was particularly fortunate in the speedy recovery of her health and strength. This lady was attacked while sitting with her husband in the parlour, and was in the act of stooping, when she suddenly exclaimed, 'My dear, something has given way in my stomach; did you not hear it break?" He endeavoured to persuade her it arose from flatulence. Mr. Glen was sent for, but there did not appear to be any occasion for alarm, and after prescribing some slight medicine, he left her. "In an hour

* Lehrbuch der Geburtskunde, p. 387.

† Med. Gazette, vol. ii. p. 400.

‡ Ibid. vol. iii. p. 218. A similar case was recorded by Dr. Rainey, of this city, in 1766.

§ Ruptures de l'Uterus, pp. 15, 16.

|| "Sometimes the uterus seems to be predisposed to this accident, by a fall or bruise. Reidlinus relates one instance of this. Behling, Steidele, and Perfect furnish us each with another. Salmuthus considers a thinness of the uterus as a predisposing cause of rupture; and Dr. Ross relates a case where it seemed to have this effect, the womb not being above the eighth part of an inch thick, and tearing like paper." —*Burns' Midwifery*, p. 529.

"The uterus may be ruptured by violent accidents happening to the mother in the advanced state of pregnancy."—*Denman's Introduction to Midwifery*, p. 260.

¶ Merriman's Synopsis, p. 112.

from this time," he continues, "I was sent for in all haste, and was, indeed, shocked beyond expression at the great change in the state of my patient. She was now in bed, extremely restless, her countenance pale, and depicting great anxiety and intensity of suffering; pulse extremely rapid, and evidently sinking; slight nausea; great pain referred to the hypogastric region; constant tenesmus, and a slight discharge of grumous blood from the vagina." The patient died immediately after the extraction of a dead fœtus. A *post mortem* examination was made the next day. "On laying open the abdomen, we found the uterus still there, uncontracted, and presenting nothing unusual in appearance; but on raising the body, and turning it forwards, a rupture was discovered, extending from *fundus to cervix*, through which an immense mass of coagulated blood had passed into the abdomen. We could discover no disease in its texture, and could perceive nothing by which to account for such a deplorable accident, expect a very slight extenuation of substance of that part of the uterus which rests upon the bodies of several of the vertebræ, but which latter did not appear to project further than usual."

A case somewhat similar is related in the *Gazette Medicale* for February, 1837. The woman was in the sixth month of pregnancy when she was attacked with uterine hæmorrhage. Slight labor pains came on, which produced but little effect upon the position of the child; and during the night all the symptoms of rupture of the womb came on, and she died the next day. There was nothing discovered at the autopsy to account for the accident.

It has been attributed to irregular action of the uterine fibres.

2. *During labor.*—(*a*). If the uterus have been attacked by inflammation during pregnancy, its tissue may have been so much weakened or disorganized, that the violent contractions which take place during labor may rupture it, from the want of consentaneous action in the part affected.* or from the pressure of some part of the child against it.

Streidele† relates a case where rupture occurred in consequence of gangrene.

My friend, Dr. Murphy, has published an excellent paper illustrative of this cause of rupture, with cases where the uterus was atrophied, thinned, or softened in texture.‡

* "Or if the uterus, which had acquired its proper thickness, became affected with inflammation, or any other disease, weakening its power, and speedy in its progress, the texture of the part so affected might be destroyed, and the uterus ruptured by its own action at the time of labor."—*Denman's Introd. to Midwifery*, p. 260.

† Diss. de Ruptû in partus doloribus Utero.

‡ Dublin Journal, vol. vii. p. 198, et seq. I shall extract one or two of his inferences:—

Duparcque quotes cases of thinning of the uterine walls, softening, scirrhus, and gangrene.*

In some cases the seat of the laceration corresponds exactly with the situation of the previous pain.

Dr. Tyler Smith believes that in many cases violent uterine action is in itself the cause of rupture; the immediate cause being either emotion or volition, or a reflex, or peristaltic action.

The period of labor at which the rupture may occur from this cause will vary; it may be at the beginning, before the rupture of the membranes; during the passage of the head through the pelvis; or after the delivery.

(*b*). A certain amount of narrowing of the upper outlet may give rise to it. This is a purely mechanical cause. The head of the child is forced downwards by violent labor pains, but is unable to enter the pelvis, from the contraction of the upper strait; now, if the pains continue with great power, the head is turned to one side or the other, or posteriorly, and the only obstacle here being the uterine or vaginal parietes, the head is driven through them at the weakest part. They offer the less resistance, probably, from the woman having generally borne several children.

In one of Dr. Clarke's cases, the antero-posterior diameter of the upper outlet measured but three inches; in two others, three and a half.

In case 18 of Dr. Douglas, the pelvis measured but two inches antero-posteriorly; and in another case (20) there was a bony ridge on the top of the symphysis pubis, to which the rent corresponded.

In one of Dr. Ramsbotham's cases, the antero-posterior diameter was only two inches; in another three inches; and a third had always had difficult labors previously.

In one of Dr. Collins' cases, the same diameter measured two and a half inches; and in several it appeared narrower than usual.

The sex of the child will contribute to the increase of this disproportion; male children having the larger heads. Now, of the twenty cases mentioned by Dr. M'Keever, fifteen children were males, and five females; and of Dr. Collins' thirty-four cases, twenty-three were males.

"1. That a perfectly healthy uterus is very rarely ruptured, except from external injury.

"2. That in most of the instances where it occurs, it may be traced to morbid lesion, either previously existing, or produced by inflammation; and even in some cases, where this cannot satisfactorily be proved from inspection, the history of the case would seem to indicate it."

* Duparcque, Ruptures de l'Uterus, p. 131, et seq.

It occurs at all ages; but the proportional frequency is greater above thirty years of age than previously.

Dr. Collins found 1 patient of the age of 16 years.

1	,,	,,	21	,,
1	,,	,,	24	,,
3	,,	,,	25	,,
2	,,	,,	26	,,
1	,,	,,	27	,,
3	,,	,,	28	,,
1	,,	,,	29	,,
7	,,	,,	30	,,
2	,,	,,	32	,,
1	,,	,,	33	,,
1	,,	,,	34	,,
3	,,	,,	35	,,
5	,,	,,	36	,,
1	,,	,,	37	,,
1	,,	,,	40	,,

(*c*). The oblique position of the uterus has been assigned as a cause, from its directing the force of the child's head against the side of the cervix uteri and vagina.

(*d*). Some one of the tissues may give way previous to or during labor; perhaps from previous disease; perhaps from some peculiarity of structure; and in some cases, without any appreciabl cause.

Sir Charles M. Clarke published a case, in which the peritoneal covering of the uterus alone was torn; and similar cases have been since recorded by Mr. Partridge, Mr. White, Dr. Ramsbotham, Mr. Chatto, and Dr. Davis. Dr. Collins has also met with a case of this kind.*

* 1.—"Mrs. Barr, the mother of six children, was seized about 11, A.M. on Sunday, Aug. 25, 1833, (being then in the beginning of the eighth month of utero-gestation) with abdominal pain, and vomiting of bilious matter. After the lapse of two hours, a watery discharge, mingled with coagulated blood, took place from the vagina. I saw her at 3 P.M., when she appeared pale, faint, and sunk in countenance, like a person suffering from extreme hemorrhage, though the quantity of blood she had lost was inconsiderable. "The sickness continuing, about five o'clock one of her attendants gave her some brandy, which allayed it; but shortly after, labor pains commenced, and about seven I was sent for in haste; and, on my arrival, found the patient just delivered of twins, each child enveloped in its proper membranes, with the placenta attached. The contents of the uterus were expelled by a single violent contraction, which left her much exhausted." "The pain continued very severe, and I gave her another dose of opium, but

Dr. Radford has published two cases, in which the muscular coat was

without any alleviation of pain, which increased in intensity till she expired at a quarter before nine."

Post mortem examination. On opening the abdomen, a quantity of dark-colored blood was found, which amounted to about forty ounces. There were no coagula. The uterus was well contracted; and on its anterior part, natural, excepting an ecchymose appearance of the cellular texture around the tubes and ovaries; but on the posterior surface, a considerable number of transverse lacerations were discovered, all more or less curved in form, with the convex part towards the fundus, averaging from half an inch to two inches in length, and varying in depth; some were mere fissures, as though made by a penknife. One was particularly large, measuring three inches in length, and nearly two in breadth in its centre. A flap of peritoneum had fallen down, and the raw and fibrous structure from which it had been torn was exposed as completely as it could have been done by the most careful dissection."—*Mr. Partridge's Case, Med. Chir. Trans.* vol. ix. p. 72.

2.—"Mrs. W——, æt. 32, well formed, married fifteen years, the mother of eight living children, had nearly gone to the full period of utero-gestation of her ninth child, when, on the 10th December, 1824, she met with some fright that caused her to turn round quickly; she was at the same moment seized with pain in the lower part of the back, which extended round to the abdomen, attended with a sense of faintness, and great palpitation of the heart. She recovered soon from the immediate effects of the shock; and being of a very cheerful disposition, and of a very active turn of mind, no further apprehensions were entertained, either by herself or those about her, although it was observed that she looked paler, and appeared more languid than usual. However, she attended to her domestic affairs, until the morning of the 18th, when going up stairs she was attacked with darting pains in the lower abdominal region, attended with a peculiar sensation which she could not well describe; she became agitated, pale, and ghastly. A late eminent accoucheur was immediately sent for, who found her labouring under great difficulty of breathing, threatening suffocation, pain of her heart, pulse quick and fluttering; there was no appearance or symptom of her labor coming on; and seeing her situation becoming more alarming, Dr. Cheyne was called in consultation. About nine, P.M., Mrs. W—— was seized with labor, and after a few feeble uterine pains, she was delivered of a full-grown still-born male child; but in less than three quarters of an hour she gradually sunk and expired."

Post mortem examination. "*Abdominal cavity.*—On opening the abdomen, a large quantity of fluid blood was found in the vicinity of the uterus, the broad ligaments of which were injected with blood;

torn, the serous membrane remaining uninjured.* Dr. Ramsbotham met with a case nearly similar; and Dr. Collins met with nine such cases. Duparcque relates one, and Velpeau two.

Through the kindness of Mr. Custis of Dublin, I assisted at the *post mortem* examination of a patient who was attacked with symptoms of ruptured uterus; sudden pain in the abdomen, vomiting, collapse, &c. and who died in a few hours. We found no rupture in any part, but extensive effusion of blood beneath the peritoneum covering the uterus, and lining the iliac fossæ; the result, probably, of a ruptured blood-vessel. There were also twelve or fourteen ounces of sero-sanguineous fluid in the peritoneal cavity. A case very similar is related by Dr. Ramsbotham.

Though the extent of mischief is less in these cases, yet they are equally fatal.

(*e*). Violence in turning the child may rupture the uterus, and it may accompany this operation, in certain states of the cervix, without any fault of the operator.

(*f*.) Rigidity of the os uteri, or imperforation, may occasion laceration.†

(*g*.) There are several cases on record, when the cervix uteri has been torn off completely during labor. Steidele,‡ and Mr. Scott of

the uterus had not contracted; the right ovarium was much enlarged, and contained two hydatids of considerable size; on the anterior surface of the uterus were two long tears or lacerations, and one of a smaller size, through the peritoneal coat, and also through a few superficial fibres of the uterus, from which the blood had issued. All the other parts, both of the pelvis and abdominal cavity, were perfectly sound; and on opening the cavity of the vagina and uterus, nothing was observed but what is usual after parturition."—*Mr. White's Case, Dublin Journal*, vol. v. p. 325, (1834.)

Mr. Chatto has related a similar case. The rupture occurred after the commencement of labor at the full time, and was attended with the usual symptoms. The patient died six hours after delivery. Upon examining the body, a large quantity of blood was found effused into the abdomen. The posterior surface of the uterus, near the fundus, was found ruptured to a considerable extent; and near this laceration were found three or four smaller cracks. These lacerations extended but a very short distance into the muscular structure. The inner membrane was found entire."—*London Med. Gazette*, 1832, p. 630.

Davis's Obstetric Medicine, vol. ii. p. 1067.

Ramsbotham's Pract. Observations, vol. i. p. 409.

* London Med. and Surg. Journal, vol. ii.

† Carus, vol. ii. p. 439. Hamilton's Cases, p. 138.

‡ Wassenberg, Diss. F. 1. Cun. Lip. xxi. p. 518.

Norwich,* have each recorded one; and three or four others occurred in Dublin a few years back, within a short time of each other. At a meeting of the Dublin Obstetrical Society, April 4th, 1839, Dr. E. Kennedy exhibited two os uteri which had been torn off during labor, and stated the following particulars: "Catherine Kelly was delivered in the hospital of her sixth child, on the 7th of March, 1839, after a labor of seven hours; ten hours after delivery, attention was directed to a fleshy substance, protruding from the vulva, which made its appearance after the expulsion of the placenta. It was found connected with the os uteri anteriorly, and to the right side, and was evidently two-thirds of the labia of the os. The remainder he separated by torsion, and the whole was found completely to correspond to the neck of the uterus. No hemorrhage or constitutional symptoms followed. The other case (that of Curtis, pregnant for the first time) was one of tedious labor, arising from a congested and undilatable state of the os uteri, with a pelvis of rather under-sized dimensions. On the 1st of April, at 10, A.M., os dilated to size of half a crown, and beginning to be œdematous, pains frequent, waters discharged; tartar emetic was given with little effect. On the 2nd, at 10, A.M., os two-thirds dilated, very much congested, of a deep purple color, pains not frequent, anterior lip scarified. At 9, P.M., os somewhat more dilated posteriorly; head had descended a little. An attempt was made to support with the fingers the anterior lip during the pains; the posterior part spontaneously separated and appeared without the vulva. The remainder Dr. Kennedy removed. She had a tedious convalescence."†

A similar case occurred in the practice of Mr. Hugh Carmichael, of this city, and is related by his colleague, Mr. Power. The os uteri was undilatable; and after many hours labor, it was determined to perforate the head; but just then, a violent pain occurred, which tore off a circle of the cervix, and expelled the head.‡

It appears to be the result of pressure against the brim of the pelvis, rendering the texture of the cervix soft and easily torn.

Among the *direct* causes are enumerated blows, falls, anger, convulsions, excessive movements of the child, over distension, &c. In one case M. Malgaigne attributed it to the mal-administration of the ergot of rye.

3. *At an advanced period of life.* The structure of the cervix uteri is much changed in old age; it becomes close and dense, resembling cartilage, and the canal through it is always reduced in size, and sometimes obliterated. When the outlet for the escape of the uterine mucus is thus closed, it accumulates; and if the quantity be sufficient to distend the cavity, a process of thinning or absorption

* Med. Chir. Trans. vol. ii.

† Dublin Journal, vol. xvi. p. 154.

‡ Ibid. vol. 54.

commences in some part of the walls of the uterus, and proceeds until an opening is made into the peritoneal sac.

The same process will take place with any other fluid thus deprived of exit. Duparcque quotes two cases of the kind.*

680. *Pathology.*—If the laceration be the result of disease, it may take place at any part of the organ—the body, fundus, or cervix; and it will generally be found to correspond to the situation of the pain felt by the patient previously. The edges of the rent exhibit marks of disease, the tissue is thinned, softened, and pulpy, breaking down easily under the finger.

The color may be changed to a deep red, or brown color, and occasionally the odour is offensive.

When the laceration is the result of mechanical causes, it generally takes place near the cervix, and involves both the uterus and vagina.† It may run along the anterior or posterior surface of the uterus, or at one side. In six of Dr. Jos. Clarke's cases, it was on the anterior surface, and in one, posteriorly. In Dr. Sims' and Hooper's cases, it was anteriorly; in Mr. Birch's, posteriorly; and in Mr. Cathrall's case, on the right side. In three of Dr. Ramsbotham's cases, it was posteriorly; in one along the right side; and in another along the left. Of 23 cases, Dr. Collins found one on the right, and one on the left side—eleven posteriorly, and ten anteriorly.

The direction of the rent may be nearly perpendicular, or inclining to one or other side, or running transversely.

In these cases, the structure of the uterus is scarcely altered; its texture is firm, and its color natural, except where blood is ecchymosed. The edges of the rent are jagged and uneven.

Occasionally, but very rarely, the bladder has also been torn.‡

When the serous membrane alone is injured, we find numerous

* Ruptures de l'Uterus, pp. 13, 14.

† "The part of the uterus which generally gives way, whether posterior, which is most common, or anterior, or lateral, is usually near the union of the cervix with the vagina, in which such a change is made at the time of labor, when the os uteri is completely dilated, that the distinction between them is lost, the vagina and uterus forming together one cavity, though of unequal dimensions."—*Denman's Introduction*, p. 260.

"Any part of the uterus may be torn; but generally the rupture takes place in the cervix, and the wound is transverse. It is more frequently in the posterior than the anterior part; but either may be torn. It is rare that it is confined to that side. Perpendicular rents are not common; and when they do occur, the hemorrhage is generally not so great as in the transverse."—*Burns' Midwifery*, p. 527.

‡ Archives Gen. de Med. vol. xviii. p. 109. Laennec-Piquet, These, 1822, Paris.—Velpeau.

small incisions, resembling scarifications, from a quarter to half an inch in length, and one or two lines in depth, or a smaller number of larger lacerations. They are almost always curved, with the convex part towards the fundus, and may be situated on the anterior, or posterior wall of the organ.

In all the cases hitherto mentioned, more or less blood is found effused in the peritoneal sac, and in many, the usual products of peritonitis.

When the muscular structure alone is injured, it may present either a simple solution of continuity, or evidences of disease. Blood may be found in the cavity of the uterus, and the serous membrane may become inflamed, with the usual results.

The cervix uteri, when separated, has generally a bruised appearance; is swollen, and of a red color. The edges are ragged and uneven. The canal of the vagina is rendered continuous with that of the uterus, but the connexion between them is not compromised.

When the uterus of an old person is ruptured, from the cause assigned, we shall discover a perforation in some part or it, with a considerable thinning of the walls around it.

In all these cases—with the exception of those in which the os uteri is torn off, or the muscular structure alone injured, we find marks of extensive peritonitis, unless the patient die of the shock.

681. *Symptoms.*—These vary very slightly, whether the uterus be torn completely through; or whether the peritoneal or muscular tissues alone be injured.*

Certain authors have pointed out what they deem premonitory symptoms; but these are exceedingly ambiguous. The circumstances which may justly excite our fears are—the occurrence of partial hysteritis during gestation; and during labor, the coincidence of violent labor pains with a narrow pelvis.

Rupture of the uterus and vagina is marked by a sudden, acute, and intolerable pain like a cramp; a sense of some part bursting, giving way, or tearing, with an audible noise, according to the testimony of the patient; the suspension of the labor pains; hemorrhage from the vagina; and a rapidly succeeding state of collapse.

* "A rupture of the peritoneal coat of the uterus sometimes happens, without extending itself into the uterine structure. Under this occurrence we observe all the symptoms of actual rupture of the uterine structure itself, in a diminished degree, except those connected with the escape of the child."—*Ramsbotham's Prac. Obs.*, vol. i. p. 382.

"The rupture of the uterus is accompanied with a sense of something giving way internally, always perceptible by the patient, and sometimes audible by the attendants."—*Denman's Introduction*, p. 261.

"Certain symptoms take place, which are evidences of its having

Of these symptoms, the excruciating pain and the collapse are the most constant, as in some cases the bursting or tearing is not felt;* and when only one tissue suffers, the labor may continue, and there may be no hemorrhage.†

The pain continues, with little or no intermission. The stomach is disturbed, and vomiting ensues—at first, of the contents of the stomach; then of a greenish, and ultimately of a black matter—the "coffee-ground vomit."

happened; one is a sensation of a sudden and most excruciating pain, which always comes on at the moment of rupture." "This state of pain is succeeded by faintness, from two causes, hemorrhage and pain. —*London Prac. of Midwifery*, p. 260.

"The rupture is said sometimes to be accompanied by a noise which has been distinguished by the by-standers; a discharge of blood of greater or less extent is found to take place from the vagina—her face becomes cold and pale—her respiration hurried—she is sick at stomach, and most frequently vomits—the matter discharged is sometimes the common contents of the stomach; at other times it consists of a very dark, even black-colored substance, resembling coffee grounds—the pulse is extremely frequent, small, fluttering, or extinct—she complains of a mist before her eyes; loss of sight, and extreme faintness—a cold clammy sweat bedews the whole surface of the body, and if not speedily relieved, convulsions and death follow."—*Dewees' Compendium*, p. 563.

* "Rupture of the uterus may take place without being attended with that sensation of tearing, or giving way, described by our author. In two cases which have come under the observation of the editor, this symptom was absent; the period at which the rupture happened not being marked by any peculiar sensation. Both these patients complained throughout the labor, of intense lancinating pain just behind the symphysis pubis. On opening the body of one of them, the laceration was found to be there situated. In the other case, no examination was allowed. One of these females died immediately, from the accompanying hemorrhage; the other lived till the following day. In the latter case, very extensive inflammation had been set up."—*Waller's Note in Denman's Introduction*, p. 262.

† "We are not to expect, however, that in every instance the symptoms will be so obvious, or so well defined as those I have stated. Thus, where the head is low down, firmly impacted in the pelvis, and that the injury is confined to the muscular substance of the uterus, its peritoneal covering continuing entire, we are deprived of several of the leading marks. In the first place, there will be no hemorrhage *externally*, in consequence of the vagina being blocked up; secondly, there will be no receding of the presenting part; and lastly, we will be unable to distinguish any part of the infant under the abdominal parietes."

The countenance is pale and ghastly, with an expression of intense suffering and anxiety; the surface is cold and clammy.

The pulse is very rapid, small, feeble, and fluttering; the respiration hurried and difficult; and the patient desires to be raised in bed.

There is almost always a discharge of blood from the vagina; sometimes slight, and at others so considerable as to cause death.*

We know also, from *post mortem* examinations, that in most cases hemorrhage takes place into the abdominal cavity; and some authors have attributed the state of collapse to this cause; but though it may aggravate the collapse, we find that this is present when there is no internal hemorrhage.

When the rupture is complete, the expulsive efforts cease, because the child escapes partially or wholly from the cavity of the uterus into the abdominal cavity, where it may be felt by the hand through the abdominal parietes.†

The presentation, which was probably within reach before the accident, cannot now be ascertained by the finger.

When the rupture is complete, a loop of intestine may escape through it, and give rise to the symptoms of strangulated hernia. Duparcque quotes three cases of this kind from Remigius, Percy, and Beauregard.‡

A case is related by Dr. M'Keever, where a yard and a half of intestine became strangulated, and sloughed off.

The state of collapse may continue for some time, if it do not prove fatal; but at length a certain amount of reaction takes place; inflammation sets it, and the patient exhibits all the symptoms of peritonitis—acute pain, exquisite tenderness of the abdomen on pressure, tympanitis, decubitus on the back, with the knees drawn up, quick, small, hard pulse, hurried respiration, &c.

682. *Terminations.*—The patient may die of the shock a few hours

"Even the constitutional disturbance, I have on some occasions known to be so very trifling for many hours, nay, even for some days, as to excite considerable doubts about the real nature of the case."—*M'Keever, Rupture of the Uterus*, pp. 9, 13.

* "Cette hemorrhagie peut etre comme foudroyante, la femme perit subitement, soit avant la deliverance, soit immediatement apres, sans qu'aucun signe ait fait soupçonner la rupture."—*Duparcque, Ruptures de l'Uterus, &c.* p. 162.

† "When the abdomen is examined by the hand externally, the fœtus, if the rupture be complete, may readily be distinguished through its parietes; if the fœtus cannot be detected, it is presumable that it has not escaped entirely from the uterus; but we are to ascertain this by a careful and more extensive examination."—*Dewees' Compendium*, p. 565.

‡ Duparcque, Rupture de l'Uterus, &c. p. 165.

after the accident, or after delivery;* or she may survive the shock, and die of the peritonitis;† or lastly, she may be carried off by secondary diseases, as sub-peritoneal, or lumbar abscess, &c.‡

Of Dr. Jos. Clarke's patients—

1	died undelivered.		
1	died in	4	hours.
1	,,	20	,,
2	,,	24	,,
1	,,	30	,,

Of Dr. Ramsbotham's patients—

3	died shortly after delivery.		
2	died in	1 hour.	,,
1	,,	3 days	,,

Of Dr. Collins's cases—

4	women died immediately after delivery.		
1	,,	in 2 hours	,,
3	,,	4 hours	,,
1	,,	10 hours	,,
2	,,	14 hours	,,
1	,,	17 hours	,,
1	,,	24 hours	,,
1	,,	25 hours	,,
1	,,	30 hours	,,
4	,,	on the 2nd day	,,
1	,,	3rd day	,,

* "The interval which elapses between the accident and the death is various; but whether the patient be delivered or not, she, notwithstanding the many recorded instances of recovery, generally dies within twenty-four hours; often in a much shorter time. Steidele, however, relates a case where the patient lived till the twelfth day. Dr. Garthshore's patient lived till the twenty-sixth; and in the Coll. Soc. Havn. vol. ii. p. 236, there is a case of a woman, who, after being delivered, lingered for three months. In a patient of Dr. J. Wilson's, recovery seemed to be going on for five or six days, when, after a fit of passion, she sunk in consequence of internal hemorrhage."—*Burns' Midwifery*, p. 531.

† "The death of the patient usually follows soon, though not immediately after the accident; but I have seen one case in which there was reason to believe that the woman walked a considerable distance, and lived several days after the uterus was ruptured, before her labor could be properly said to commence."—*Denman's Introduction*, p. 261.

‡ "Dr. Monro's patient was sitting in a chair, when she suddenly screamed, and the uterus was lacerated; she was not delivered, but lived from Tuesday till Friday."—*Burns' Midwifery*, p. 528.

4 women died on the	4th day after delivery.		
1	,,	5th day	,,
2	,,	8th day	,,
1	,,	9th day	,,
1	,,	11th day	,,
1	,,	14th day	,,
1	,,	24th day	,,

A patient under my care died in five minutes after the accident, undelivered. In by far the greater number of cases, the accident proved fatal.

Of Dr. Smellie's	3 cases,	2 died.
Dr. Jos. Clarke's	8 ,,	7 ,,
Dr. Merriman's	1 ,,	1 ,,
Dr. M'Keever's	11 ,,	9 ,,
Dr. Ramsbotham's	10 ,,	10 ,,
Dr. Collins'	34 ,,	32 ,,
Dr. Beatty's	1 ,,	1 ,,

Some cases, however, are on record where the patient recovered. Heister relates a case mentioned to him by Rungius; and Spiering, one cured by Forquosa. M. Peu,* Dr. Hamilton,† Dr. James Hamilton,‡ Dr. Jos. Clarke,§ Dr. Douglas,‖ Dr. Labatt,¶ Dr. Frizell,** Mr. Ross,†† Mr. Kite,‡‡ Mr. Powell,§§ Mr. Birch,‖‖ Mr. Smith,¶¶ Mr. Mac Intyre,*** Dr. Hendrie,††† Mr. Brook,‡‡‡ Dr. Davis,§§§ have each recorded one case of cure.

Dr. M'Keever and Dr. Collins have each related two, and Dr. Ramsbotham three cases. Duparcque has collected four from French authorities.

Osiander states that he has known several cases of recovery.

Velpeau quotes several cases.

* Pratique des Accouchemens, p. 341.
† Outlines of Midwifery.
‡ Select Cases in Midwifery, p. 138.
§ Trans. of Association, vol. i.
‖ Essay on Ruptures of the Uterus, p. 7.
¶ Dublin Med. Essays, p. 343.
** Trans. of Association, vol. ii. p. 15.
†† Annals of Medicine, vol. iii. p. 377.
‡‡ Mem. of Med. Society, vol. iv. p. 253.
§§ Med. Chir. Trans. vol. xii. p. 537.
‖‖ Ibid. vol. xiii. p. 357.
¶¶ Ibid. xiii. p. 373.
*** Med. Gazette, vol. vii. p. 9.
††† American Journal of Med. Science, vol. vi. p. 351.
‡‡‡ Med. Gazette, Jan. 17, 1829.
§§§ Obstetric Medicine, vol. ii. p. 1070.

There are a very few instances on record where the patient has recovered, although the fœtus remained in the peritoneal cavity.

In cases of interstitial fœtation, also, the patient has sometimes survived both shock and inflammation.

683. *Diagnosis.*—The sudden acute pain; the cessation of labor; the collapse; and the recession of the child, will render it easy to recognise the case.

But when the rupture is partial, it may be more difficult; and we must rely mainly upon the sudden pain and the collapse for our diagnosis. The occurrence of peritonitis subsequently will serve to clear up the difficulty.

In a very able paper in the *Dublin Journal*, Mr. M'Clintock has shown that the life or death of the child is a most valuable diagnostic sign. In cases of laceration the child dies almost immediately.

The sudden occurrence of peritonitis in old women may excite a suspicion of its origin; but it will not be easy to arrive at certainty.

684. *Prognosis.*—From the details already given, it is almost unnecessary to state that the prognosis is always grave. So very few are saved that there is but a faint hope of the recovery of the patient.

685. *Treatment.*—The first question which presents itself, when a rupture of the uterus is recognized, is, "*shall the patient be delivered at once, or left to nature?*" When the os uteri is undilated, instant delivery may be impossible: but in all cases where it is possible, the testimony of experience is in favor of immediate delivery.

And the cases of recovery confirm this decision; for in all but one or two, the women were delivered.

Dr. W. Hunter and Dr. Gartshore advised that the case should be left to nature; and subsequently to the publication of his Introduction to Midwifery, Dr. Denman came to the same conclusion. The evidence of facts, however, must be allowed to counterbalance even such illustrious names; and that evidence is unquestionably in favor of delivery.

Dr. Merriman thus states his opinion: "I must believe that either of these plans is to be preferred, according to circumstances. If in a case of this kind it should be found that the child had only in part escaped into the cavity of the abdomen, I should consider that it was the best practice to bring down the feet, if they were within reach, or to deliver by means of the forceps, if the situation of the head allowed of the application of these instruments. And even if the child had been wholly forced through the rent, that it would be expedient to extract it by the feet, provided the accident had not been of long duration, and there was a ready passage for the hand into the cavity of the abdomen; but if some hours had elapsed after the parts had given way, or if there were a difficulty in passing the hand, on account of the contradiction of the uterus, it would then, perhaps, be more prudent to leave the event to nature."*

* Merriman's Synopsis of Difficult Parturition, p. 115.

686. The *mode* of delivery will depend altogether upon the circumstances of the case.

1. If the head have not receded, and be within reach, or be already in the pelvis, it will be well to deliver with the forceps if possible; but if not, we must have recourse to the perforator.* It is an argument of weight in favor of trying the forceps, that in these cases the child generally lives for some time after the accident.

2. If the child have escaped into the cavity of the abdomen, the hand must be introduced into the vagina, and, if practicable, passed through the laceration, and the feet seized and brought down, so that the child may be extracted through the rent.† The placenta is then to be removed,‡ the vagina cleansed, &c. In all these cases the child is born dead.

3. If the uterus have contracted very firmly, it may be impossible to pass the hand through the rent; or the pelvis may be too narrow to admit of the child being extracted footling, or even of the passage of the hand. In such cases we are advised to perform the Cæsarian section, and extract the child and secundines through the abdominal parietes.§

* "With regard to the perforator, I have only to observe that, in order as much as possible to guard against the retrocession of the head, the opening in the cranium should be made, not in the most prominent point of that cavity, as in ordinary cases, but rather to one side—so that the force employed in perforating may be directed, not towards the axis, but rather against the walls, of the pelvis."—*M'Keever, on Rupture of the Uterus*, p. 31.

† "Of the 34 cases, 4 were delivered by the natural efforts; 19 by the crotchet; in 7 the children were brought away by the feet; in 2 the delivery was effected by lessening the thorax, and bringing down the breech; and in 2, the mode of delivery has not been stated."—*Collins' Practical Treatise on Midwifery*, p. 247.

‡ "After the delivery of the infant, the placenta will in general be found lying detached in the vagina: having removed it, as also any loose clots of blood that may remain in the passages, we next examine whether any portion of intestine has become protruded through the rent; and if so, we cautiously return it into the abdomen, following it with our fingers for some distance within the lips of the wound."—*M'Keever, on Rupture of the Uterus*, p. 31.

Dr. M'Keever has related a remarkable case, in which a large portion (1½ yard) of intestine sloughed, and came away. The patient recovered.—p. 44. See also Duparcque, Ruptures de l'Uterus, p. 95.

§ "When either the body, or fundus, or both, have suffered, and the child has escaped into the abdomen, the delivery, per vias naturales, may be either difficult or impossible, even in a well-formed pelvis; for the uterus will most probably contract itself so much as to render the

Successful cases are related by Thibault des Bois,* Lassus,† Haden, Baudelocque, Latouche and Jopel,‡ Lambron, Glodat,§ Kuhne de Weyer,‖ &c.

To these may be added cases related by the following:—M.M. Coquin,¶ Sommer,** Cceoni,†† Ruth,‡‡ Rust,§§ Gais, Naegelè, Weinhardt,‖‖ Heim,¶¶ Busch, Demay,*** Lechaptois et Lair,††† Velpeau.‡‡‡

4. This will be the only mode of delivery in ruptures occurring during gestation, before labor has commenced.

re-passage of the child impracticable; the only chance in this case is the immediate performance of gastrotomy; but should a contracted pelvis complicate this case, the latter operation is the only alternative. But should the uterus remain flaccid, and its mouth yielding, and the pelvis well formed, we may succeed, though with difficulty, through the natural passages; but if this flaccid state of the uterus be attended by a deformed pelvis, the abdominal section is the only resource."—*Dewees' Compendium*, p. 567.

"It may happen that great deformity of the pelvis prevents delivery. In such circumstances, we must either perform the Cæsarian operation, or leave the case to nature. If we have been called early, and before the abdominal viscera have been much irritated by the presence of the fœtus, we ought to extract the child by a small incision. This is assuredly safer than either leaving the child, or bringing it down, either with or without perforation, through a contracted pelvis."—*Burns' Midwifery*, p. 533.

* Journal de Med. Mar. 1768.

† Pathologie Chirurgicale, vol. ii. p. 237.

‡ Quarterly Journal of Foreign Medicine, vol. ii.

§ Mondiere's Essay. in Revûe Med. Franç. et Etrang. Dec. 1837.

M. Mondiere quotes a very remarkable case of a woman who had the Cæsarian section performed, on account of narrowness of the pelvis. She became again pregnant; and at the seventh month, the cicatrices of the former incisions gave way, and she was delivered through the wound.—*Revûe Med. Franc. et Etrang.* December, 1837, p. 28. Encyclographie, January, 1838.

‖ Nouv. Ency. des Sciences Med. Jan. 1846, p. 70.

¶ Bulletin de la Facultè, 1812, p. 86.

** Ibid.

†† Bulletin de Ferussac, vol. v. p. 47.

‡‡ Ibid, vol. vi. p. 280.

§§ Laroth, ibid, vol. xix. p. 85.

‖‖ Ibid.

¶¶ Ibid.

*** Journal Gen. vol. v. p. 58.

††† Ibid, vol. i. p. 187.

‡‡‡ Traitè d'Accouch. p. 355.

During the stage of collapse, it may be necessary to give stimulants, ammonia, camphor, musk, wine, &c.; but this should be done with great judgment, so as just to attain our object, and no more; bearing in mind that whilst we may be relieving the collapse, we may be aggravating the re-action, and increasing the danger at that period.

A large dose of opium may be given after the delivery.

When inflammation sets in, of course the treatment must be actively antiphlogistic. Three or four dozen leeches should be applied over the abdomen, and repeated if necessary.

Large bran poultices are useful, and hip baths are recommended. Calomel and opium, or opium alone, is the most valuable remedy we possess. It should be given in large doses, or in smaller ones more frequently, so as to influence the system rapidly.

If the rupture have arisen from narrowness of the upper outlet of the pelvis, and the patient recover, and again become pregnant, premature labor should be induced at such a period of gestation as will allow the fœtus to pass without difficulty. It is of course desirable that the operation should, if possible, be deferred until the fœtus is "viable;" but I do not think this a "sine quâ non," as it may be worth while sacrificing the child to save the mother. Dr. Collins relates a successful case of this kind, in which the patient was delivered the first time by artificial premature labor, and afterwards naturally. In Dr. Douglas' case, the patient was delivered by turning, the first pregnancy after the accident, and naturally the second.

It would, however, be much wiser for the patient to avoid the risk of a subsequent delivery.

CHAPTER VIII.

VESICO-VAGINAL AND RECTO-VAGINAL FISTULA.

687. PERFORATION of the coats of the vagina, anteriorly or posteriorly, with the subjacent organs, the bladder or rectum, is not very rare, and is one of the most distressing and intolerable accidents to which females are subject; and the more so, as a cure is but seldom effected.

Indeed vesico-vaginal fistula has long been considered as one of the *opprobria* of surgery; and, with some exceptions, of late years the cure has been given up as hopeless.

Vesico-vaginal fistulæ are more frequent than perforations of the

rectum; they are generally found separately, but in some cases co-exist.*

A case was received into the Meath Hospital some years ago, in which the bladder and rectum were both perforated, the perineum lacerated, and the canal of the vagina distorted by cicatrices, and closed at its upper part by adhesions.

688. *Causes.*—Various *causes* may give rise to these accidents:

1. Either wall of the vagina may be wounded, accidentally or on purpose, by cutting instruments. Such has been the result of criminal attempts to procure abortion. In these cases, however, a cure often takes place spontaneously.

2. The long retention of a pessary in the vagina may give rise to inflammation and ulceration of the vaginal tunics, and ultimately to perforation of the bladder or rectum. This, however, but seldom occurs, and then only in aged females, for whom little can be done in the way of cure.*

3. In powerless or difficult labors, where the head of the child is long retained in the pelvis, or where, by its size, it makes great pressure, the vagina may be the seat of inflammation, ulceration, and perforation, involving either of the subjacent organs, but much more frequently the bladder. In these cases, the vagina is frequently narrowed, or deformed by irregular, circular, or spiral cicatrices, rendering the detection of the fistula somewhat difficult.

4. A maladroit use of instruments may occasion this injury. Cases of both kinds of fistula could easily be adduced from authors, as the result of carelessness or incompetence in the operator.

5. Retention of urine during labor will generally involve more or less pressure upon the bladder; if within certain limits, perforation will be the result of subsequent inflammation; if the distension be excessive, and the bladder protrude into the pelvis, so as to be pushed before it by the descending head of the infant, then, most probably, rupture of the bladder and vagina will take place.‡

* "M. I. Cloquet (Path. Chir., p. 100,) gives the particulars of a case, in which a pessary was met with in the body of an old woman, the broad lower end of which had perforated the rectum; while the upper narrower one had produced ulceration of the vesico-vaginal septum, and entered the bladder."—*Cooper's Sur. Dictionary, Art Pessary*, p. 1090.

† Nauche, Mal. des. Femmes, vol. ii. p. 273. Davis, Obstetric Medicine, vol. i. p. 223. See also Journ. de Med., vol. iii. p. 551. London Med. Journ., vol. i. p. 335. Saviard's Surgery, pp. 7–72.

‡ "Between the case of rupture, and that in which an opening is produced by slough, there is a considerable difference. In slough, there is not merely the aperture, but the removal of a part both of the womb and vagina; in rupture, no substance is wanting—the

6. The bladder is occasionally lacerated in rupture of the uterus, though there may not necessarily be a perforation of the vagina.*

7. In corroding ulcer and cancer of the uterus, the ulceration may involve either or both walls of the uterus, and perforate the bladder, or rectum, or both. For these cases, however, nothing curative can be attempted.

689. The *situation* of the perforation is of great importance in the cure of vesico-vaginal fistulæ. It may be at the junction of the urethra with the bladder; in the neck of the bladder; or in some part of its body. The opening may be more or less circular in form, or it may be a rent running longitudinally from before backwards, or transversely.

The curability of the fistula will depend, in a great degree, upon its being attended with a loss of substance or not.

Recto-vaginal fistulæ are uncertain in situation and form, occupying any point of the intermediate septum, and running antero-posteriorly, or transversely.

690. *Symptoms.*—These depend primarily upon the cause of the fistula, and will vary according to it; and *secondarily,* upon the escape of the contents of the wounded organ. Whichever organ be wounded, the result is inexpressible distress to the patient. The escape of fæces or urine is attended with so marked and irrepressible an odour, that the patient is placed "*hors de société.*" Obliged to confine herself to her own room, she finds herself an object of disgust to her dearest friends, and even to her attendants. She lives the life of a recluse without the comforts of it, or even the consolation of its being voluntary. It is scarcely possible to conceive an object more loudly calling for our pity, and strenuous exertions to mitigate, if not remove, the evils of her melancholy condition.

In addition to the offensive smell, the escape of the urine gives rise to excoriation of the vagina, external parts, and thighs.

The flow of the urine is constant when the neck of the bladder is the seat of the injury, and at intervals when the wound is situated more posteriorly.

injury being effected by the simple disruption of the texture. Do not, however, hastily take up the notion, that in these ruptures the bladder is always, or even generally healed, for this I very much doubt; such closures, however, most undoubtedly occur sometimes, and I have seen one very suspicious instance of it."—*Blundell, Diseases of Women,* p. 80.

* "The vesical cyst may give way posteriorly into the peritoneal sac—the urine becoming interfused among the viscera; or the laceration may be seated in front, the water making its escape into the cellular web which lies about these parts, and covers the contiguous surfaces."—*Blundell, Diseases of Women,* p. 69.

In all cases, a careful examination should be made, by passing the catheter into the bladder, and a finger into the vagina; then placing the points of both in apposition, the whole posterior surface of the bladder should be passed over, and carefully examined. At some one point the finger and catheter will come in contact: the catheter may then be passed into the vagina, and the extent of the damage ascertained. This examination is the more necessary, inasmuch as a temporary incontinence of urine is not uncommon after delivery. It generally also comes on soon after labor, so that at first either may easily be mistaken for the other. A vagino-vesical examination will always enable us to distinguish them. This incontinence, which arises from a species of paralysis of the bladder, is best treated by the frequent evacuation of the urine, rest, and when the lochia have ceased, by cold local bathing.

The same process will detect any injury of the recto-vaginal septum.

When the vagina is not cicatrised, it is not generally difficult to obtain the information we desire; but when deformed by cicatrices, it will require both care and patience.

It may sometimes be necessary to use the speculum.

In the majority of cases, little is to be hoped for from the efforts of nature; the borders of the wound become thickened and callous, and the case remains stationary during the patient's life.

In some few cases, however, the result is more favourable; as, for instance, when the wound has been inflicted by a sharp instrument.

In two cases under my care, where the wound was precisely at the insertion of the urethra into the bladder, and was followed at first by absolute incontinence of urine, a cure was obtained naturally. The wound slightly contracted, without healing, and the muscular fibres of the bladder assumed the office of a sphincter muscle, and closed the orifice, so that the patient could retain urine almost as long as previous to the accident, and could evacuate it at pleasure.

691. *Treatment.*—We cannot wonder that many methods should have been tried to remedy so offensive an accident, nor that so few should have succeeded, when we recollect the obstacle presented by the constant passage of urine or fæces. We shall first treat of the cure of—

692. 1. Vesico-Vaginal Fistula, which is by far the most difficult.

The probability of relief depends partly upon the situation, and partly upon the character of the fistula. When it is far back in the posterior wall of the bladder, and when there has been much loss of substance, a cure is seldom obtained; but when near the neck, we may sometimes succeed.

I shall now notice the principal plans which have been proposed.

1. *Dessault's method,** as it has been called, consisted in maintain-

* "En suivant ce procedè, nous sommes venus à bout de guèrir ces fistules urinaires et vaginales tres anciennes, à travers lesquelles nous

ing a catheter constantly in the urethra, so as to afford an outlet for the urine, and at the same time preventing its escape, by plugging the vagina.*

Chopart succeeded in curing a case by this means, where the wound was in the neck; but he failed in one where it was in the body of the viscus.

Peu,† S. Cooper,‡ and Blundell, each relate a case of cure.

J. Cloquet has added a kind of syphon to the catheter.

There is no doubt that much relief may occasionally be derived from this plan. I had a case in which the patient was ultimately enabled to retain her urine for two hours, without dribbling, though the wound did not entirely close; but in some of the cases on record, the wound completely healed.

There is this objection to the plan, however, that in many instances the patients cannot bear the catheter above an hour at a time.§ I saw two examples lately, where this circumstance proved a serious obstacle to the attempt at cure.

2. *Cauterisation.* This is obtained by the repeated application of the nitrate of silver, or the strong acids. Dupuytren, who, I think first proposed the plan, used the "nitrate acide de mercure," or nitrate of silver.

pouvions porter le doigt dans la vessie."—*Dessault, Œuvres Chir.* vol. iii. p. 299.

* "The cure (according to some) consists in keeping a flexible catheter always in the bladder, that the urine may be continually solicited to come through the urethra, rather than through the vagina; but if this precaution hath been neglected, and the lips of the ulcer are turned callous, we are directed to pare them off with a curved knife, buttoned at the point, or consume them with lunar caustic; and if the opening is large, to close it with a double stitch, keeping the flexible catheter in the bladder until it is entirely filled up: but I wish this operation may not be found impracticable."—*Smellie's Midwifery,* vol. i. p. 247.

A case is related as having been cured by constantly wearing a catheter for months.—*Recueil Period. de la Societe de Sante de Paris,* vol. i. p. 187.

† Pratique des Acc. p. 384.

‡ Ryan's Manual of Midwifery, p. 253.

§ "The goodness of the principle of keeping a catheter constantly in the bladder has been long acknowledged; and in some few cases, its application has been attended with a successful result. The only objection to it in practice, is the extreme irritability of the bladder—by reason of which, few patients have been able to tolerate the retention of a catheter within its cavity for a sufficient length of time to comply effectually with the principle of its indication."—*Davis's Obstetric Medicine,* vol. i. p. 127.

Relief has occasionally been afforded by this means; but a cure is very rarely, if ever effected. Where there is much loss of substance, it affords no chance. I have seen it fail more than once.

However, Dupuytren, and Delpech, and Baravero are said to have thus cured several cases.

The best mode of applying the caustic is by means of a speculum, which will leave the upper surface of the vaginal canal exposed; or by Lallemand's "porte-caustique." The caustic should be lightly applied, as the object is not to produce a slough, but merely a contraction.

3. *Actual Cautery.* If the loss of substance be slight, and the wound small, there is no doubt that a cure may be obtained by this means.* Dupuytren, who first proposed it, cured several;† Dr. M'Dowell, one;‡ Dr. Kennedy, two;§ Mr. Liston, four or

* "Cauterisation has been employed by many surgeons in the treatment of vesico-vaginal fistulæ. It has been successful in many cases, when they were seated in the neck of the bladder, or in the urethra." "Mais qu'il s'agisse d'une fistule du bas-fond de la vessie, avec perte de substance et d'une date ancienne, la scene change alors la face."—*Jeanselme, L'Experience*, January, 1838.

† Lancet, June 23, 1838.

"Nous avons vu guerir par Dupuytren, apres trois canterizations de feu, une incontinence complète d'urine, occasionèe par une perte de substance disposeè en forme de fente longitudinale, qui partait de l'urethre, dont la paroi inferieure etait completement detruite et s'etendait jusqu'au bas-fond de la vessie."—*Sanson, Nouveaux Elemens de Pathol. Med. Chir.* vol. v. p. 294.

‡ London Med. and Phys. Journal, 1831.

§ "The operation may require to be several times repeated. Whether by repeating it sufficiently often, we should even in the majority of cases succeed in closing the aperture, I cannot say, but rather think not. Fortunately, however, it does not require that the aperture should be actually closed to enable our patients to retain their urine, as a very good substitute for the adhesion of the sides of the fistula occurs in the extension of its margin or lip across the aperture, thus forming a kind of valvular closure of it, by which means the bladder becomes capable of retaining the urine almost as well as if the opening were closed. In a patient whom Dr. Breen saw with me, this effect was produced in a striking degree; and although her urine was constantly escaping from her before the cautery was had recourse to, she was enabled afterwards to retain it without difficulty, for six or seven hours. In a case Dr. Collins saw with me, although the operation was performed six times, yet the aperture did not completely close; but thickening of the margin of the fistula took place—in consequence of which, the woman was able to retain her urine through the entire night, and for several hours (even when walking, and using active exertion) during the day, although, on

five;* and others have been equally successful. Dr. Colles has tried it successfully where the orifice is not too large; but without benefit where the fistula was extensive. I witnessed a successful case treated by my friend, Dr. Ferrall, of St. Vincent's Hospital.

I also tried it in a case under my own care, but it failed, as I anticipated, on account of the large size of the opening.

The facility with which the operation is performed will depend upon the situation of the fistula being more or less anterior.

The patient may be placed upon her back, as for lithotomy, or upon her knees and elbows. Dr. Kennedy adopted the former; but I have found the latter far more convenient, and I think less offensive to the patient's feelings. The light can reach the part more readily, and the position of the operator is more convenient. The patient must be placed before a window, or a candle must be used.

The next point is to dilate the vagina, so as to ensure access to the wound, without contact with the vagina. This may be done by three brazen spatulæ, sufficiently long to reach beyond the rent, and broad enough to protect the vagina—or by a double-bladed speculum.

I have also used, with great facility and safety, a metal cylinder, closed at its extremity, but with an opening in the side, a little distance from the end, and corresponding to the fistula. I am indebted for this suggestion to Dr. Montgomery

A catheter should be passed into the bladder, and through the fistula, to guide the operator, and to keep the mucous membrane of the bladder from protruding.

Having these preliminaries adjusted, the cauterising iron, at a white heat, should be *lightly* applied around the *edges* of the wound, and withdrawn.

The dilators, or speculum, may then be removed, and the patient placed in bed. If it do not occasion irritation, it will be advantageous to allow the catheter to remain in the bladder.

The patient should be kept quiet, and the bowels freed by medicine.

A certain amount of local irritation generally succeeds, which subsides in the course of a few days; after which the operation may be repeated as often as necessary.

The operation should not produce a slough, or the patient will not be benefited, but merely a corrugation or shrivelling of the edges.† If

her coming to me, it was constantly escaping"—*Kennedy's Essay in Dublin Journal*, vol. ii. p. 24.

* Lancet, June 23, 1838.

† "The effect of the cautery is to produce a thickening of the margin, and consequent contraction and diminution of the aperture—and ultimately, an adhesion of its edges, closing it up altogether. Upon the size and position of the aperture will depend the greater or less likelihood of perfect cure."—*Kennedy's Essay in Dublin Journal*, vol. ii. p. 241.

we thus reduce the wound, so as to bring the edges in contact, adhesion may then take place, and the patient be cured. But it must in candour be confessed, that whilst it is not difficult or uncommon to benefit the patient to a great extent, a complete closure of the fistula is very rare.

4. *The Suture.* This method is said to have been invented by Roonhuysen; at all events, it has been long known and practised by the profession, with varying results.

Of late years, it has been performed with success by Dieffenbach, Blandin, Chauam, and Jobert, (who operated seven times, and cured three patients,)* Sauson, who failed; Deyber, who nearly, if not quite cured his patient; Malagodi of Bologna, who has published his successful case; by MM. Lallemand, Dugès, and Roux, who failed; and by M. Naegelè.

Mr. Earle cured three cases by this means. Mr. Hobart, of Cork, formerly published a successful case in a London Journal,† and now states that he has since perfectly cured at least ten by the suture.‡ A successful case is related in the American Medical Recorder.§

Dr. Evory Kennedy has succeeded in diminishing the orifice several times, and in one case in which the twisted suture was used, the cure was complete.

Mr. Hayward, of Boston, U. N., has recently published a very interesting case, which was perfectly successful.‖

On the other hand, Dr. Colles (whose name alone is a sufficient guarantee for all that science, and skill, and care could do,) of this city, has allowed me to state that he has repeatedly tried the common interrupted suture, but though he has by this means lessened the orifice, he has never succeeded in closing it entirely: and this was the result under very favourable circumstances.

He has also seen very unpleasant consequences result from the operation—hemorrhage (the edges of the fistula having been removed by the knife) to a great amount—fever, hectic, &c.

I have seen the operation performed very carefully, twice; but in neither instance did union take place.

The operation may be performed in the following manner. The edges of the wound are to be renewed, either by paring with a knife, or

* Lancet, May 12, 1838.

† London Med. and Phys. Journal, vol. v.

‡ "In reply to your letter, I have only to say, that many cases of vesico-vaginal fistula came before me within the last fifteen years, many of whom were cured, some relieved, and others not at all benefited. I think there were from ten to fifteen *perfectly* cured, and all by the same means."—*Extract from a Letter from Mr. Hobart, of Cork*, dated August 10, 1839.

§ For April, 1826, p. 410.

‖ American Jour. of Med. Sciences, Aug. 1839.

the application of caustic; the latter has the advantage of being less liable to occasion subsequent hemorrhage. When this is accomplished, the patient is to be placed on her back or knees, and the vagina to be dilated. If the wound be near the insertion of the urethra, or can be brought down by passing a catheter through it, a curved needle (rather shorter than usual,) may easily be passed through the opposite edges.* If the wound be further back, an instrument must be used to pass the suture. Mr. Hobart fixed a curved needle at the end of a canula, by means of a piece of wire with a hook at the end of it, running through the canula. The needle is passed through the hook, and held firm by it.

M. Naegele has contrived a needle, with a long handle, for passing the ligature.

He has also invented a species of scissors, for the purpose of paring the edges.

Mr. Beaumont has described an ingenious instrument for passing the sutures:—

"The instrument, it is seen, is in the form of a forceps, one blade of which is a needle, curved towards its point, close to which is its eye. The other blade is broader on its opposing surface, less curved, and at its extremity has a hole, through which the needle-point, and just the loop of the ligature, are carried when the blades are closed. On the back of the broad blade is a spring, which, when pushed forwards, the blades being previously closed, catches the ligature on its point, and holds it.

* "The patient was placed on the edge of a table, in the same position as in the operation for lithotomy. The parts being well dilated, I introduced a large bougie into the urethra, and carried it back as far as the fistula. In this way, I was able to bring the fistula downwards, so that the opening was brought fairly into view. The bougie being then taken by an assistant, I made a rapid incision with a scalpel around the fistula, about a line from its edges, and then removed the whole circumference of the orifice. As soon as the bleeding, which was slight, had ceased, I dissected up the membrane of the vagina from the bladder, all around the opening, to the extent of about three lines. This was done, partly with a view of increasing the chance of union, by presenting a larger surface, and partly to prevent the necessity of carrying the needles through the bladder. I then introduced a needle, about the third of an inch from the edge of the wound, through the membrane of the vagina, and the cellular membrane beneath, and brought it out at the opposite side, at about an equal distance. Before the needle was drawn through, a second and a third were introduced in the same way; and these being found sufficient to close the orifice, they were carried through, and the threads tightly tied. Each thread was left about three inches in length."—*Mr. Hayward's Case, American Journal of the Med. Sciences*, August, 1839.

"In using this instrument, the operator has only to seize on its points, in the same manner as he would with a pair of forceps, the border of the fistulous opening; the blades should then be closed, and the ligature will be carried through one lip of the aperture. The opposite border is then to be seized, and the blades to be closed, and held so. The spring on the back of the broad blade is now to be pushed forwards, by which the ligature is caught, and held at its point. The blades are then to be opened, and gently withdrawn, leaving a double ligature passed through opposite points of the fistulous aperture, so that a common or quilled suture may afterwards be formed."*

Mr. B. used it once with a quilled suture.

The instruments I have used were chiefly copied from some lent me by the present distinguished Master of the Britain-street Lying-in Hospital (Dr. Kennedy), with the addition of one I had made for transverse lacerations. They consist of an instrument for paring the edges of the fistula; a needle for a fissure running antero-posteriorly; a needle for transverse fissures; and a hook for disengaging the ligature, after it has been passed through the edges of the wound.

When the twisted suture is used, short curved needles may be employed; it will also be well to keep them in for some time. In Dr. Kennedy's case, they were retained about three weeks.

Many other modifications of the manner of applying the ligature, (such as Schreger's, Ehrmann's, &c.,) might be enumerated, but for them I must refer my readers to Kilian's work already mentioned.

It will generally be necessary to pass three sutures, none of which should be tightened till all are inserted, and when tied, the ends should be cut off. The tightening is easily accomplished with two pair of dressing forceps.

When this is done, the dilator, or speculum, may be removed, and the patient put to bed.

There is considerable soreness and pain complained of, which may be relieved by vaginal injections of warm water, twice a day, and the exhibition of purgative medicine.

When the edges of the wound have been pared, we must be on the watch against hemorrhage; should it occur, cold injections may be thrown up, or a plug inserted, and if necessary, the sutures divided.

The sutures generally come away about the eighth or tenth day, and we are then able to ascertain the result of our operation, which, if not wholly successful, may be repeated after a week's interval.

In the majority of cases, I fear we shall find but little benefit;†

* Med. Gazette, Dec. 3, 1836, p. 335.

† "But when all was effected, every thing was opposed to the process of union; the parietes of the vagina and bladder were very thin, there being two secreting surfaces, with very little interposed substance; and there was a constant distillation of an acrid fluid through the edges

though even less success than has as yet attended our efforts would justify the operation.

M. Naegelè has described an instrument, consisting of two small plates, joined at the back like the pages of a book, and fixed in a handle of steel. The anterior edges are brought together by a screw fixed in the handle, and the edges of the wound being included, are retained in apposition, and the lower part of the handle removed.*

M. Lallemand has also invented one, which he calls a "soude-erigne," by which a similar effect is produced.† Not having seen the instrument, I am unable to give a description of it. He has cured one case with it, partially cured another, but failed twice.‡

MM. Langier and Lewziski have also contrived similar instruments.

5. Dr. Blundell saw a fistula in the neck of the bladder, near the urethra, cured by laying open the urethra to the rent, and then healing it up, as is done in ordinary fistula. Mr. Porter, of the Meath Hospital, performed a similar operation, which terminated successfully.

6. "*Elythro-plastie.*" This name is given to the operation by which a portion of integument is taken from a neighbouring part, and applied to the vesico-vaginal fistula, and retained by sutures; the old connexion being maintained until union has taken place. It is exactly similar to the rhinoplastic operation for repairing noses.

It was suggested by Velpeau, but first practised by Jobert. Of his four operations, one patient was cured at once; one by a second operation; one died; and with one it failed.

M. Roux did not succeed with it.

I am not aware that any other surgeon has tried it.

7. *Closure of the Vagina.* When using the caustic for the cure of vesico-vaginal fistula, in the year 1833, M. Vidal de Cassis chanced to touch the vaginal mucous membrane with it; this caused considerable inflammation, and on making an examination subsequently, he found the sides of the vagina adherent. The patient also observed that the dribbling of urine had entirely ceased. Unfortunately, a areless examination was afterwards made, and these adhesions were

of the wound; it was seldom that union took place. All, indeed, might appear to go on well for eight or ten days; but at the expiration of that time, the wound would probably be found to have been enlarged by having been interfered with, and would become larger and larger every time the attempt at cure was made."—*Report of Mr. Liston's Clinical Lecture, in Lancet*, June 23, 1828.

* Erfahrungen und Abhandlungen, &c. p. 389.

† Velpeau, Med. Operatoire, vol. 3.

‡ "In conclusion, M. Lallemand's instrument may be employed in fistulæ of the neck of the bladder with a good chance of success; but at present it has not succeeded with deeper seated fistulæ of old standing."—*Jeanselme, l'Experience* for Jan. 1838, p. 54.

destroyed. But the hint was not thrown away, for on the next occasion, in the same year, M. Vidal de Cassis attempted to relieve the fistula in this way, and was perfectly successful, until the clumsiness of an assistant destroyed these adhesions also.

It has since been advocated by MM. Berard and Velpeau, at the Acad. des Sciences Medicales, but opposed by MM. Dubois and Moreau.

It is possible in some cases this would be found a valuable means of relief.

Caustic of any kind will answer the purpose of exciting inflammation, though adhesion may not always take place.

I have seen a circle of the mucous membrane removed, and the parts brought together by suture, for the purpose of closing the orifice of the vagina, but union did not take place.

When we have recourse to this method, care should be taken to leave a very minute opening for the escape of the menstrual fluid, if menstruation have not ceased.

8. *The Plug.* If none of the means hitherto described afford a probability of cure, or fail upon trial, it is at least a comfort to know that we can still remove a portion of the distress caused by this frightful complaint, provided the irritability of the vagina be not too great to bear a plug.*

Various cases of relief by this means are on record.

Dr. Gooch, in 1814, suggested to Mr. Barnes, of Exeter, the employment of an Indian-rubber bottle, of sufficient size to fill the vagina, and having upon one side of it a small piece of sponge, to be applied to the fistulous opening. Mr. Barnes used this with great benefit to his patient.†

* "A well adapted globular body, of a proper size to admit a suitable part of its convex surface to be accurately adjusted to the boundaries of the aperture, capable also of some modifications of its figure, for the greater convenience of introduction and adjustment, readily chargeable with air, for the purpose of distention, but nevertheless admitting of being made perfectly air-tight; so smooth on every part of its surface as to be easily tolerated when applied to the parts intended, even in their most tender state: such an instrument might in many, perhaps in the majority of cases of inter-communications between the bladder and vagina, be safely recommended as a means of relief or mitigation of the distressing evils consequent upon the accession of so grievous a calamity."—*Davis's Obstetric Medicine*, vol. i. p. 128.

† "A flat silver catheter was left in the bladder, and a few days after an elastic gum bottle was introduced into the vagina. A firm one was selected, and capable of containing two ounces of water; and had sewn on the convexity of its side a thin fine piece of sponge, as large as a dollar. A double string was passed internally through its

M. Dugès has proposed a similar plan, but the pessary was made of different materials.*

Dr. Evory Kennedy has succeeded in taking casts (with wax) of the vagina with the fistula, in several cases; and from them he made moulds, and had caoutchouc bottles cast in the moulds. These were large enough to fill the vagina, and to close the outer opening, so as entirely to prevent the escape of urine.

I have attained the same object by means of a piece of sponge covered with thin bladder. It should be large enough to fill the vagina, and of a suitable shape. A narrow neck, of the dimensions of the vaginal orifice, is to be formed, by wrapping it with twine, which is to be covered with lint. The whole has much the shape of an egg-cup. It should be dipped in oil previous to being used, and then it can easily be introduced, and the stalk filling up the external orifice, no urine can escape. It can be removed and replaced by the patient herself.

Various other suggestions have been made,† but either of these plans will relieve the patient from the constant dribbling and offensive odour, and will allow the excoriations to heal.

If the patient cannot pass water with the plug in situ, she should learn to withdraw it and re-introduce it herself.

bottom, and left hanging through its neck. The sponge was well smeared with calamine cerate; the bottle, dipped in oil, folded longitudinally, and passed into the vagina with the sponge in front. From its elasticity, it immediately expanded; and by a finger introduced through the neck, it was readily placed in its proper situation, so as to bring the sponge immediately opposite the perforation in the bladder."

"The principle of the management is simple. It consists in keeping up that degree of pressure which shall prevent the flow of urine through the opening, without exciting inflammation; and in providing at the same time a free passage through the urethra."—*Mr. Burnes' Paper in Med. Chir. Trans.* vol. vi. pp. 586—597.

* "M. Dugès a imaginé, pour une fistule vesico-vaginale, une sorte de boudon formé de l'estomac ou d'une vessie natatoire de poisson, introduite a l'aide d'une soude que servait ensuite a la gonfler en la remplissant de l'huile; pour uriner il suffisait de l'enfoncer plus avant en poussant la soude dans l'urethre."—*Duparcque, Ruptures de l'Uterus, &c.* p. 339.

† "Dr. Balmanno shewed me a patient who derived much comfort from having a hollow tin globe, like a pessary, inserted into the vagina. It was perforated at the upper part like a pepper box, and from the under, a catheter descended, which entered into a flat flask, suspended between the thighs. Little or no urine escaped by the vagina."—*Burns' Midwifery*, p. 93—note.

693. 2. RECTO-VAGINAL FISTULA.—I have already mentioned that many of these cases are cured spontaneously; others, however, require the resources of art.

The plans of treatment for the cure of vesico-vaginal fistula are almost all equally applicable to this accident.

The wound may be touched with caustic, or the actual cautery—the edges may be pared,* or cauterised, and brought into contact—or the vagina may be filled with a plug.

All these methods have been tried, and with much greater success than in vesico-vaginal fistula; and the method of operation so closely resembles that already recommended, that it would be unnecessarily tedious to repeat it.

CHAPTER IX.

LACERATION OF THE PERINEUM.

694. When this accident is of slight extent, it may not interfere with the comfort of the patient; but when extensive, it will be a cause of constant distress; and in either case, the proper cure of the wound is important—as, if callosities form, or irregular cicatrices, much impediment may be offered in subsequent labors. It is an accident much more common with first labors than afterwards.

It will be recollected that when the head of the child descends so as to fill the cavity of the pelvis, it necessarily makes pressure upon the lower part of the rectum and the sphincter ani; that it then receives a direction forwards and downwards, and successively distends the central space of the perineum and its anterior border.

When the perineum offers much resistance, as with first children, the mucous membrane of the posterior wall of the vagina, owing to its laxity of connexion with the subjacent tissue, is partially everted, and forms a kind of artificial perineum.† This is almost always torn, but

* In a case of recto-vaginal fistula, Schultzer, "resolved to cut off the edges of the aperture of communication, on the principle of the operation for the cure of fistula in anô. The wound was treated accordingly in the same manner as is usual in the treatment of such fistulæ. In six weeks the cure was completed, and the excrements were again discharged by their accustomed passage."—*Comment. de Rebus in Scient. Nat. et Med. Gestis, Lips.* 1775, vol. iv. p. 664, *Davis*, p. 127.

† "When the perineum is indisposed to distend; or if, when dis-

the rent may extend no farther; and if we examine the day after delivery, we shall find this mucous membrane retracted, and the true perineum untouched.

This is not to be confounded with the laceration of the true perineum, of which we are about to treat.

695. The *situation and extent* of the rupture vary according to the cause and the circumstances of the case.

1. It may commence at the anterior border, and extend to the sphincter ani; and this is the most frequent extent.

2. The rent may involve the entire perineum, and extend through the sphincter ani, laying the cavities of the rectum and vagina into one.

3. The central space of the perineum is sometimes ruptured, leaving the anterior edge (the fourchette) and the sphincter ani untouched. Cases are related by Hernu, Coutouly, Lachappelle,* Meckel,† Lebrun,‡ Thiebaut,§ Frank, Martin,‖ Moschener,¶ Jungmann, Marter de Konigsberg,** Trinchinetti,†† Merriman,‡‡ Waller,§§ Douglas,‖‖ and Joubert.¶¶ And a case occurred in this city.

The rent may run along the central raphe of the perineum—on one side—diagonally—or in the form of the letter V or Y.

In most of the above cases, the child actually passed through the central opening; but in some cases, by careful management, it was transmitted through the natural orifice, without rupture of the fourchette.***

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tended, it cannot permit the head of the child to pass with facility, the anterior part of the rectum is dragged out, and gives to the perineum a temporary elongation."—*Denman's Introduction*, p. 33.

* Duparcque, Ruptures ou Dechirures, &c. p. 368.

I am indebted to Duparcque's excellent work for several of the following references.

† Neue Jour. fur die Chir. vol. iv. 1811.

‡ Annales de Med. Phys. July, 1825.

§ Journ. de la Soc. de Med. vol. xxxiv. p. 178.

‖ Arch. Gen. de Med. vol. xxiv.

¶ Bull. de Ferrusac.

** Siebold's Journal, vol. xi. p. 726.

†† Obs. sur l'Accouch. diff. Milan, 1819.

‡‡ Synopsis of Difficult Parturition, p. 263, 4th ed.

§§ A case of this nature occurred in the practice of Mr. Burnett, of Charterhouse Square, in which both child and placenta were expelled through the perforation in the perineum; the sphincter ani and the frenum labiorum remaining entire.—*Waller's Note in Denman's Introduction*, p. 36.

‖‖ Dublin Hospital Reports, vol. iii.

¶¶ Bull. de la Soc. Med. d'Emulation, 1822.

*** Denman's Introduction to Midwifery, p. 36.

4. The recto-vaginal septum, sphincter ani, and part of the perineum, may be torn, so as to permit the transit of the child, leaving the anterior portion of the perineum entire, as in the cases related by Andrews* and Mekeln.†

696. *Causes.*—The accident may arise from a deviation from the ordinary mechanism of parturition—from mal-conformation of the passages, or soft parts—from mal-presentation—or from mismanagement.‡

1. If the *sacrum* be too *perpendicular*, the head of the child, instead of receiving its direction anteriorly, in the direction of the axis of the lower outlet, will be forced downwards upon the posterior portion of the perineum.

* In the Philadelphia Medical Examiner for March 16, 1839, Dr. Andrews, of Steubenville, Ohio, says:—"A case of delivery, per anum, occurred in this place about two years ago, in the hands of a midwife, who then had considerable practice. The midwife stated to me that she was sitting by the fire, when the woman called to her for assistance; and that on examining, she found the head of the child 'coming the wrong way.' The child was of full size, and was delivered in a few minutes completely *per anum*. The perineum was torn about an inch, but not directly towards the fourchette, and thereby a *complete* division between the rectum and vagina was avoided. The bowels of the patient were kept constipated for a number of days, and thus a perfect union of the laceration effected. It was the first child."

† Another case may be found in the Dublin Journal, taken from a German periodical. "Dr. Mekeln, of Kettwig, was called to a female on the 1st of January, who had given birth to a strong and lively infant through the anus, two hours before his arrival. The wound in the under part of the vagina, as well as that in the rectum, was of great size. The perineum, from the aperture of the anus, to the vagina, was two-thirds torn, and very painful. After three days, both the urine and fæces passed by their ordinary channels. On the 4th day, suppuration occurred, the wounds healed, and the woman, in due course, recovered her strength."

‡ "This progress (of the child's head) involves—1. That the presenting part glides easily along the curved plane of the vagina—from the sacrum to the vulva. 2. That the ano-perineal surface offers sufficient resistance to continue the direction impressed upon the head by the inferior and posterior part of the lower outlet. 3. That the pubic arch oppose not the exit of the fœtal head. 4. That the vulva be so distensible as to permit of the depression of its commissure, and the distension of its aperture. The failure of any one of these conditions becomes a predisposing cause of laceration of the ano-perineal region of the vagina."—*Duparcque, Ruptures et Dechirures, &c.*, p. 342.

2. If the *arch of the pelvis be too acute*, so as to prevent the presenting portion filling its upper part, extraordinary dilation of the orifice of the vagina will be necessary, and the head will be pressed with unusual force upon the anterior part of the perineum.

3. A similar effect is said to be caused by a *thickened state* of the *urethra* and circumjacent parts, in the arch of the pubis.

4. The *too rapid passage of the head* may be attended with this accident. This may depend upon the extraordinary violence of the pains, or upon the small size of the head, which prevents it receiving the successive changes of direction from the plane surfaces of the pelvis, and the changes in the axes of the cavity and lower outlet.

5. *Exostosis* in any part of the pelvic cavity may so act upon the direction in which the fœtal head is propelled, that rupture of the perineum may result.

6. *Excessive breadth of the perineum*, by receiving the force of the descending head in its centre, may be a cause of laceration, because the head rests in the centre, and distends it, instead of gliding forwards to the anterior edge.

7. *Rigidity* of the perineum, or an old cicatrix, may resist the dilating power of the head, and ultimately give way under the employment of greater force.

8. The tissue of the perineum may be *weakened* by disease, or by too much pressure, so as to offer little or no resistance.

9. *Occlusion* of the lower outlet by the *hymen*. As this membrane, though much thinner than the perineum, is far less distensible, if it do not give way, the perineum may. I attended a case lately, in which the hymen resisted the pressure of the head (with strong pains) for two hours after the perineum was perfectly distensible, and in which there was every probability that the perineum would have been lacerated, had not the hymen ruptured. Laceration of the hymen may also be extended into the perineum.

10. *Malposition* of the child's head, by presenting a longer diameter than usual to the lower outlet, may give rise to this accident.

11. *Mal-presentations.*—Face presentations, involving the passage of the head in its longest diameter over the perineum, breech, or footling cases, which do not receive a proper direction so readily as the head, may also lacerate the perineum. Dupuis relates a case where one foot came through the vagina, and one was forced through the perineum.

12. The accident may arise from the woman being *awkwardly placed* for delivery, or from her *starting away* from the attendant: or from her *exerting too much voluntary force* at the time the head passes through the lower outlet.

13. The perineum may be torn, in consequence of *want of care when instruments are used.* They ought generally to be removed just before the head passes through the vaginal orifice.

From this detail of the causes which may produce or predispose to

laceration of the perineum, it will be seen that it may not always be in our power to prevent its occurrence.

697. *Symptoms.*—If the laceration be very slight, probably no ill consequences will ensue; but if it extend to the sphincter, the patient will feel a want of support at the lower outlet, and a sense of "falling through." It is said to influence subsequent cohabitation, and certainly it will favor procidentia of the uterus.

If the recto-vaginal septum be torn, the condition of the patient will be very pitiable. The fæces (for some time at least) pass through the vagina involuntarily, and the utmost attention to cleanliness will not suffice to prevent the offensive smell, which renders the patient an object of disgust to herself and her friends.

The lochial discharge passing over the wound will for a time prevent any natural efforts at cure; and the edges may become callous, or degenerate into ulceration.

When slight, the rent generally contracts, and is healed without our interference, after a short time; and even when the recto-vaginal septum is torn, partial union may take place, leaving only a fistulous opening—or a kind of valve may be formed so that, under ordinary circumstances, the patient is partly relieved of her infirmity. But this is the work of time—it may be months or years.

698. *Treatment.*—1. *Preventive management.* A few words may not be misapplied in pointing out the best mode of preventing this occurrence.*

1. Defects in the passages, which render the mechanism of expulsion inefficient, may often be remedied by the application of the hand in such a manner as to give a direction forward to the head.

2. Direct support should be given to the perineum when distended, but this is frequently carried to excess, and produces the accident it is intended to prevent; it should be moderate and gentle—just so much as to support the parts, but no more.† I must altogether object to any attempt to retard the passage of the child, as erroneous in theory, and mischievous in practice.

3. When the perineum is rigid and undilatable, benefit may be

* "The preventive treatment consists in changing or destroying the abnormal conditions which predispose to this accident, and which may be divided into three heads. 1. The direction of the fœtus, throwing all the pressure upon the ano-perineal region. 2. The defective resistance of these parts. 3. Obstacles at the orifice of the vulva, to the exit of the child."—*Duparcque, Ruptures et Dechirures, &c.*, p. 395.

† "The pressure must not be exerted to a greater extent than will suffice to convey to the patient a feeling of support; for, were it applied in a greater degree, we should be apt to produce what we are

derived from fomentations with hot water, the use of warm oil, lard, or pomatum.

4. Under no circumstances is it justifiable to dilate the external orifice with the hand, as formerly recommended; on the contrary, instead of drawing back the perineum, it ought to be carried forward.*

5. If laceration be threatened in consequence of the persistence of the hymen, it may be incised with a blunt-pointed bistoury.

6. The patient should always cease forcing, and remain perfectly quiet during the exit of the child.

699. *Curative Treatment.*—Slight cases, as I have said, will often heal without assistance. Even when the rent is more extensive, a cure may be effected without further interference than great cleanliness—keeping the patient in one position, so as to preserve the edges of the wound in contact—and constipating the bowels after free purgation.†

If this do not succeed, we are advised to use a degree of compression, passing a binder around the hips, and a pad on either side of the perineum, so as to secure the apposition of the lips of the laceration.

Stripes of adhesive plaster have been applied, but they do not answer.

In many cases either of these plans has succeeded,‡ but in many

anxious to prevent, since the perineum would be firmly squeezed between two surfaces harder than itself."—*Campbell's Midwifery*, p. 329.

* "In supporting the external passage, while every pain partially protrudes the head of the infant, the author advises the perineum to be forced forwards towards the pubis—a method which he has followed for forty years."—*Hamilton's Pract. Obs.* part i. 261.

† "Position, aided by other precautions, suffices in a great number of cases to procure an union, if not complete, yet sufficiently extensive to prevent the serious inconveniences which result from profound lacerations of the perineum."—*Duparcque, Ruptures et Dechirures, &c.* p. 422.

"When the accident has occurred, if it is merely a slight laceration, keep the parts clean, and it will heal of itself—the patient, it may be, never suspecting what has happened. If the laceration be more extensive, reaching through the sphincter, the most miserable consequences ensue—the patient becoming for a time incapable of retaining the contents of the bowels. It is, however, a satisfaction for her to know, that in the course of months the parts harden round the orifice of laceration; and in consequence of this hardening, unless there be diarrhœa, or extraordinary action of the rectum, the fæces may be retained, though not without uncertainty."—*Blundell's Obstetricy*, p. 759.

‡ "J'ai vû un assez grand nombre des dechirures profonds du

cases also they have both failed, especially when the recto-vaginal septum is involved. However, we have still another resource—

In *the suture*, which was first proposed by Ambrose Parè, and practised by Guillemeau, La Motte, Saucerotte, Trainel, Nöel, Dieffenbach, Roux, &c.

Before this can be attempted, however, the primary inflammation must have subsided; nor is it forbidden, even though a considerable time should have elapsed. M. Montain cured a case on which he operated 36 days after delivery; and others have succeeded at a more distant period.

Three different kinds of suture have been adopted—the *interrupted*, the *twisted*, and the *quilled* suture. Osiander, Dieffenbach, &c., succeeded with *the first*, but according to Duparcque, the success and failure have been nearly equal. Mr. Alcock cured one,* and Mr. Bayer two patients in this way.† Dr. Mettauer, of Virginia, (U.S.) succeeded with metallic sutures; they were introduced, and the parts approximated, by twisting the ends together.‡ They were removed in six weeks, and union found to have taken place.

The great objection to the interrupted suture is that the lips of the wound are not closely applied in the whole extent, and the union is often partial.§

perinèe; quelques uns etendaient a l'anus et au rectum; toutes ont gueris par reunion immediate, sinon complete, au moins suffisante pour rendre nuls ou supportables les inconveniences consecutifs a ce genre de blessure, et cependant jamais je n'ai eu recours a la suture."—*Duparcque, Ruptures et Dechirures*, &c., p. 433.

* "The cure of a lacerated perineum is very difficult—in some cases impossible. If, indeed, the rent does not extend through the sphincter ani, the torn parts will sometimes coalesce so as to form a tolerable perineum; but when the laceration passes quite into the rectum, a cure is rarely perfected."—*Merriman's Synopsis*, p. 110.

† Lond. Med. and Phys. Journal.

‡ Edin. Med. and Surg. Journal, vol. xix. p. 552.

§ "*Interrupted Suture.* The wound being cleansed from all clots of blood; and its lips being brought evenly into contact, the needle, armed with a ligature, is to be carefully carried from without, inwards to the bottóm; and so on from within outwards. Care must be taken to make the puncture far enough from the edge of the wound, lest the ligature should tear quite through the skin and flesh. The other stitches required are only repetitions of the same process. The threads having been all passed, you are in general to begin trying them in the middle of the wound; though if the lips be held carefully together, it will not be of great consequence which stitch is tied first."—*Cooper's Surgical Dictionary*, p. 1209.

The same observation may be applied to the *twisted suture*,* although it has succeeded with Morlanne, Saucerotte, Noël,† Dieffenbach, &c.‡

The *quilled suture*§ is evidently better adapted for the purpose, as the entire surfaces of the laceration may be brought into contact.

Dupuytren succeeded once; Roux and Dieffenbach several times; M. Dubois failed; but Mr. Davidson succeeded completely.‖

* The *twisted suture* is performed in the same manner as for hare-lip.

† "M. Noël rapporte avoir remedié par la suture non seulement à une dechirure complète et ancienne du perinèe, mais encore à celle du sphincter de l'anus et de la cloison recto-vaginale. Il raviva d'abord la plaie du perinèe, comme on le fait dans l'operation du bec-de-lièvre, il plaça ensuite quelques epingles, qu'il assujettit avec du fil entrelacè." The patient was cured.—*Capuron, Mal. des Femmes*, p. 489.

‡ In the *Lancet* for March 3, 1838, nine cases are related which were treated by Professor Dieffenbach. In the 1st, 8th, and 9th cases, the interrupted suture alone was used; the patients recovered. In the 3d, two twisted sutures were applied. In cases 2, 4, 5, 7, both twisted and interrupted sutures were used; and in all, union took place. In case 6, both twisted and interrupted sutures were employed; but the wound only healed partially.

§ *Quilled Suture.* "It is merely the interrupted suture, with this difference, that the ligatures are not tied over the face of the wound, but over two quills, or rolls of plaster, or bougies, which are laid along the sides of the wound. In performing this suture we make first two, three, or four stitches of the interrupted suture, very deep, and then, all the ligatures being put in, we lay two bougies along the sides of the wound; then slip one bougie into the loop of the ligatures on one side, drawing all the ligatures on the other side, till that bougie is firmly braced down. Next, we lay the other bougie, and make the knots of each ligature over it, and draw it also pretty firm; and thus the ligatures, in the form of an arch, go deep into the bottom of the wound, and hold it close, while the bougies, or quills, keep the middle of the wound, and lips of it, pressed together with moderate closeness, and prevent any strain upon the threads, or any coarse or painful process of tying across the wound."—*Cooper's Surg. Dictionary*, p. 1210.

‖ "On the 6th of November, 1838, in company with Dr. Henry Davies, I performed the operation in the following manner:—I passed deeply a strong double ligature, by means of a common curved needle, close by the edge of the rectum, and another, rather more than half an inch from the first, towards the vagina; after which, I pared the edges of the wound, which I had not previously done, that I might not be annoyed by the oozing of blood, so as to be enabled to place the

Dr. Colles has rarely succeeded in curing, though he has diminished the rent.

If there should be loss of substance, or contraction of the two sides of the perineum, so that they will not readily meet or remain in contact, Dieffenbach makes an incision through the skin, on each side.

The bowels should be freed well before the operation, and an opiate given, so as to constipate the bowels; and when union is attained, this may be remedied by an enema.

The catheter must be passed morning and evening for some time.

The diet should be spare—a little gruel and biscuit will answer very well. Of course, absolute rest is necessary.

"If the radical cure fail, the patient must use a compress, with a spring bandage, if the stools cannot be retained. But it sometimes happens that the torn extremity of the rectum, or the anterior parts, containing a fragment of the sphincter, or a portion of the internal sphincter, as it has been called, forms a kind of flat valve, which rests on the posterior surface at the coccyx, so that the orifice now resembles a slit, and the fæces, unless very liquid, remain in the hollow of the

ligatures more accurately. The ligatures being introduced, I employed, as cylinders, two pieces of elastic gum catheter, about an inch and a half in length, one of which was placed in the loops which the double ligatures formed on one side, and the other between their separate ends, tying them firmly upon the cylinder. Baron Roux found in his cases that the use of the quilled suture caused an eversion of the edges of the wound; to remedy this, he had recourse to several small sutures, at different points between the different ligatures. To effect the same object, and also with a view of keeping the divided parts more closely and firmly in contact, I adopted the following plan, the materials for which I had prepared previous to the operation. I armed a curved needle with a piece of narrow tape, four inches long, having a knot at one end; this was passed down each end of both cylinders about half an inch, and brought outwards, the end of the tape being prevented slipping through by the knot; the tapes were then placed in such a situation as to be intermediate to the ligatures; this being done, I turned the cylinders gently towards the edge of the wound, and tied the corresponding tapes over it, which, I think, rendered it much more solid than any number of small ligatures could have done. The bowels were constipated by opium, the urine drawn off night and morning, and the diet consisted of small quantities of gruel and hard biscuit. The ligatures were removed on the seventh day, and union was found to have taken place throughout. The urine was evacuated naturally after nine or ten days; the bowels relieved on the seventeenth; and after six or seven weeks, she was able to go about as usual.—*Lancet*, May 4, 1839, p. 225.

sacrum, and do not pass through the valvular orifice till an effort be made to expel. Sometimes the perineum unites, but the septum does not, and the inner surface of the rectum protrudes into the vagina. In these cases, the edges of the septum must be made raw, and stitches used."*

CHAPTER X.

PHLEGMASIA ALBA DOLENS† CRURAL PHLEBITIS.

700. This disease, under various appellations, has been long known to the profession, although there has been much difference of opinion as to its nature. It was described by Roderick à Castro, in 1603, and subsequently by Mauriceau, Puzos, Levret, Petit, Leake, White, Hull, Trye, &c.

It consists in a swelling of one or both legs, (simultaneously or successively,) shortly after delivery, with pain and tenderness, and running a definite course. The left leg is more frequently affected than the right.

It may occur with first children, but it is more frequent after subsequent deliveries.

Women of a delicate constitution, or lymphatic temperament, are said to be the most liable to the attacks; but especially those who have suffered from uterine irritation after delivery. Mr. Chatto's case followed extraction of the placenta.‡

It generally commences within a fortnight after delivery,§ sometimes on the third or fourth day; in others, not till some weeks have elapsed. Of 22 cases observed by Dr. R. Lee, 7 were attacked between the fourth and twelfth day, and 14 after the second week.

* Burns' Midwifery, p. 74.

† Called also milk leg, white leg, swelled leg, puerperal tumid leg, &c. By Dr. Hull, Phlegmasia dolens; by Dr. Cullen, Anasarca serosa; by Dr. Good, Bucknemia sparganosa; by others, phlegmasia lactea, œdema lactium, &c.

‡ Med. Gaz. Sept. 14, 1839.

§ Denman's Introduction, p. 507.

"In some rare instances, the phlegmasia dolens makes its appearance even months after delivery; and Levret states that he has known an attack to occur on weaning the child, perhaps a year or more after delivery."—*Blundell's Obstetricy*, p. 785.

701. *Pathology.*—Successive authors have given different theories touching the essential nature of this disease: and though we have recently become acquainted with the most important point of its pathology, it is not quite certain that even yet our knowledge embraces the whole series of facts connected with it.

Mauriceau* considers it to be owing to a reflux upon the lower extremities, of certain matters which ought to have been evacuated by the lochia.

Puzos† and Levret‡ attributed it to deposits of milk (*depots du lait*) in the legs. This opinion has prevailed extensively in these countries; and with some practitioners it was customary to keep the child constantly to the breast, to prevent this metastasis when threatening, or to remove it when it had occurred.

In the year 1784, Mr. White, of Manchester, published an inquiry into the nature and cause of that swelling in one or both of the lower extremities, which sometimes happens to lying-in-women; and he suggested or adopted the opinion, that the disease depends on obstruction, or on some other morbid condition of the lymphatic vessels and glands of the affected parts.

Mr. Trye, of Gloucester, in an essay on this subject (1792), attributed it to a rupture of the lymphatic vessels, as they cross the brim of the pelvis, under Poupart's ligament. Soon after this, Dr. Ferrier maintained that there is a general inflammatory state of the absorbents in this disease.

Dr. Hull (1800) considered the proximate cause of this disease to be an inflammatory affection, producing suddenly a considerable effusion of serum and coagulable lymph into the cellular membrane of the limb. All the textures, muscles, cellular membranes, lymphatics, nerves, glands, and blood vessels, he supposed to become affected.

So far, the theories depended upon *a priori* reasoning—not upon pathological facts; and the first light thrown upon the subject by *post mortem* examination was by Dr. Davis, the well known Professor of Midwifery in University College, London, who in 1817 examined the condition of the veins in a patient who had died with the disease, and found that they had evidently been the seat of extensive inflammation.

This case he relates as follows: "Morbid appearances observed on examining the body of Caroline Dunn, March 6, 1817:—The left lower extremity presented an uniform œdematous enlargement, without any external discoloration, from the hip to the foot. This was found, on further examination, to proceed from the ordinary anasarcous effusion into the cellular substance. The inguinal glands were a little

* Mal. des Femmes Grosses, vol. i. p. 446.
† Traitè des Accouch. p. 350.
‡ L'Art des Accouch. p. 932.

enlarged, as they usually are in a dropsical limb, but pale colored, and free from the slightest sign of inflammation. The femoral vein, from the ham upwards, the external iliac, and the common iliac veins, as far as the junction of the latter with the corresponding trunk of the right side, were distended, and firmly plugged with what appeared externally a coagulum of blood. The femoral portion of the vein, slightly thickened in its coats, and of a deep red color, was filled with a firm bloody coagulum, adhering to the sides of the tube, so that it could not be drawn out. As the red color of the vein might have been caused by the red clot every where in close contact with it, it cannot be deemed a proof of inflammation. The trunk of the profunda was distended in the same way as that of the femoral vein; but the saphena and its branches were empty and healthy. The substance filling the external iliac, and common iliac portions of the vein, was like the laminated coagulum of an aneurismal sac, at least with a very slight mixture of red particles; the tube was completely obstructed by this matter, more intimately connected to its surface than in the femoral vein; adhering indeed as firmly as the coagulum does to any part of an old aneurismal sac; but in its centre there was a cavity containing about a tea-spoonful of a thick fluid of the consistence of pus, of a lightish brown tint, and pultaceous appearance. The uterus, which had contracted to the usual degree, at such a distance of time from the delivery, its appendages and blood-vessels, and the vagina, were in a perfectly natural state. There was not the least appearance of vascular congestion about the organ; nor the slightest distension of any of its vessels. Its whole substance was, on the contrary, pale, and the vessels everywhere contracted and empty. The state of the abdominal cavity and its contents was perfectly natural. That the substance occupying the upper part of the venous trunk and the fluid in its central cavity had been deposited there during life, from inflammation of the vessel, does not admit of doubt. I am also decidedly of opinion, in consequence of its firmness, and close adhesion to the vein, that the red coagulum in the femoral vein was the result of a similar affection extending along the tube; and that the passage of the blood through it, in the whole tract submitting to examination, must have been completely obstructed before death."*

He then taught that phlegmasia dolens resulted from this cause, and in May, 1823, published a paper with cases and dissections in the Med. Chir. Trans., vol. xv.

"In January, 1823, M. Bouillaud related several cases and dissections, in which the crural veins were obliterated, in women who had suffered from œdema of the lower extremities after delivery; and M. Bouillaud distinctly stated that he considered obstruction of the

* Letter from W. Lawrence, Esq., in Davis's Obstetric Medicine, vol. ii. p. 1204.

crural veins to be the cause, not only of the œdema of lying-in women, but of many partial dropsies."*

It is but just to remark, that although this bears an earlier date than Dr. Davis' paper, yet the latter gentleman had been promulgating his views for six years previously.

In 1829 (I believe) Dr. Robert Lee, acting upon a suggestion of Mr. Guthrie's, succeeded in tracing the affected veins to their origin in the uterus, and found the disease equally marked there.† He then added to Dr. Davis' observation the fact that (at least, in many cases) crural phlebitis is but an extension of uterine phlebitis.

MM. Petit, Gardien, and Capuron,‡ regard the disease as inflammation of the lymphatic vessels and glands.

Dr. Burns considers the nerves as involved in the disease.§

Dr. Campbell coincides rather with Dr. Davis than Dr. Lee.‖

* Lee, on Diseases of Women, p. 149.

M. Velpeau concludes as follows:—

"1. Le gonflement aigu des membres abdominaux chez les femmes en couche reconnoit pour cause, dans quelques cas du moins, une inflammation des symphises ou des veines.

"2. D'une autre coté, les accidens observes sur le vivant se rapporteraient aussi bien à une lesion grave des veines profondes, qu'à celles des lymphatiques.

"3. Jusqu'a present il reste encore à demontrer, que les derniers organes soient veritablement la cause de la phlegmasia alba dolens.

"4. Des maladies de nature tout-à-fait differente ont eté rangeés sous la même titre, et c'est là ce que a pù en imposer et contribuer a repandre la confusion sur cet objet, d'ailleurs assez obscurement decrit par un grand nombre de medicins."—*Recherches et Obs. sur la Phlegmasia Alba Dolens, in Arch. Gen. de Med.*, October, 1824.

† "The left hypogastric, or external iliac vein, was in the same condition, but in some places reduced to a cord-like substance; and its cavity throughout completely obliterated. The branches of this vein, taking their origin in the uterus, and usually termed the uterine plexus, were found completely plugged up with firm red coagula."—*Lee, on Diseases of Women*, p. 131.

‡ Mal. des Femmes, p. 551.

§ "I consider that the nerves are implicated as much as the veins; and that whilst both may contribute, we shall find in different cases one or other predominate."—*Burns' Midwifery*, p. 611.

‖ "From the only dissection which the author has witnessed, and the cases published by Drs. Lee and Davis, in support of their respective theories, he must coincide in opinion with the latter; for it is obvious that the malady may commence either in the uterine or extra uterine veins."—*Campbell's Midwifery*, p. 370.

Dr. Dewees rejects the pathological view, and is rather inclined to adopt that of Dr. Hull.*

M. Bouillaud has written a very able article on this subject in the Dict. de Med. et de Chir. Prat. (1834), in which he includes inflammation of the symphyses, veins, lymphatics, and nerves among the proximate causes of phlegmasia dolens.

It is evident that if we take pathological anatomy for our guide, we must conclude the disease to consist in inflammation of the veins of the lower extremities, in many cases propagated from the veins of the uterus; and that the interruption of the circulation through these vessels gives rise to the effusion of serum in the cellular tissue. This view also derives some support from the phenomena which result from phlebitis in other situations.

At the same time it is not impossible that some further information may be necessary, before we fully comprehend the true theory of the disease.

702. *Causes.*—The exciting cause is generally the impression of cold; and if Dr. Lee's views be of general application, we may add disease of the uterus, especially of that part to which the placenta is attached.

703. *Symptoms.*—As this disease generally occurs in women who have suffered from uterine irritation, or inflammation,† and may even be caused by such condition of the uterus, it is not surprising that the ordinary premonitory symptoms should commence with pain or uneasiness in the lower part of the abdomen, extending along the brim of the pelvis: the patient is irritable, depressed, and complains of great weakness.

Denman says: "Before the appearance of any swelling, or sense of pain in the limb about to be affected, women become very irritable, with a sense of great weakness, and grievously depressed in their spirits, without any apparently sufficient reason, complaining only of transient pains in the region of the uterus; and from these the ap-

* Dr. Dewees objects to Dr. Davis' explanation of the nature of the disease, and concludes by saying, "We have upon this subject but two suggestions to make, viz:—1, Be the affection seated in what tissue it may, its character is highly inflammatory; 2, That in our opinion, this inflammation occupies exclusively the white lymphatic vessels of the cellular membrane of the several textures of the limb."—*Diseases of Women*, p. 489.

† "In most of the patients there was either an attack of uterine inflammation in the interval between delivery and the commencement of the swelling in the lower extremity; or there were certain symptoms present which I have before described as characteristic of venous inflammation, viz., rigors, headache, prostration of strength, a small rapid pulse, nausea, loaded tongue, and thirst."—*Lee, on Diseases of Women*, p. 117.

proach of the disease has frequently been foretold. After a short time they are seized with an extremely acute pain in the calf of the leg, extending to the inside of the heel, and then, observing the course of the lymphatics, stretching up to the ham, along the internal part of the thigh, to the groin, occasioning a slight soreness on the lower part of the abdomen."*

Sometimes, however, there are no precursory symptoms, the patient being suddenly seized with pain in the calf of the leg; or it may commence like rheumatism, affecting the back and hip joint, as Dr. Burns has remarked, "Sometimes there is no uneasiness in the belly, and the first symptom is sudden pain in the calf of the leg. Within twenty-four hours after the pain is felt, the limb swells, and becomes tense; it is hot, but not red—it is rather pale, and somewhat shining. The swelling sometimes proceeds from the groin downwards; but in most cases it is first perceptible about the calf of the leg, and proceeds upwards. It is generally followed by an abatement, but not a cessation of the pain. Sometimes the disease begins like rheumatism, affecting the back and hip joint. Then the upper part of the thigh becomes painful and swelled; and next the calf of the leg suffers; sometimes the limb at first feels colder than the other."†

When the disease begins in the pelvis, the pain speedily extends below Poupart's ligament down the thigh, to the ham, calf of the leg, and foot.

It is constant, but occasionally remitting, and not much relieved by posture, though a depending position materially increases it.

Shortly after the commencement, the inguinal region is tumified and tense, and in a day or two the thigh becomes swollen, tense, white, and shining. This swelling may be confined to the thigh, or extend to the heel, and it will vary much in amount; occasionally the leg is enormously increased in size.

When the pain originates in the back and hips, the nates and vulva become swollen, glassy, and tense.

When the disease commences in the calf of the leg, the swelling is first observed there or at the ancles, gradually extending itself up the leg and thigh.

The temperature of the limb is generally increased, though sometimes it is below the natural standard.

At the commencement and decline of the disease, the limb pits upon pressure; but when the distention is very great, it does not. Just as Dr. R. Lee has described:—"In several well-marked cases, however, of crural phlebitis at the invasion of the disease, the impression of the finger has remained in different parts of the limb—more particularly along the tibia; but as the intumescence has increased, the pitting upon pressure

* Introduction, p. 506.

† Burns' Midwifery, p. 609.

has disappeared, until the acute stage has passed away. At the onset of the disease, I have also observed in several cases a diffuse erythematous redness of the integuments along the inner part of the thigh and leg."*

In most cases, the femoral vein may be traced from the groin down the thigh, feeling hard, and rolling under the finger like a cord. When the attack is limited to the leg, however, this is not the case.

There is a degree of tenderness all over the limb, but it is very marked along the course of the inflamed vessel; there is neither redness nor discoloration.

The inguinal glands are generally swollen and hard, in some rare cases they suppurate.†

Abscesses may form in the cellular membrane; and Burns states that mortification has occurred.

Either leg may be affected, though the left appears to be more frequently attacked; and it not infrequently happens that the sound leg participates in the disease before the other is perfectly well, and then the disease runs a similar course a second time.‡

When once the swelling takes place, the limb becomes useless—the patient can neither bend it, nor place it on the ground.

* Lee, on Diseases of Women, p. 118.

† "Then also the inguinal glands are affected; sometimes the external, which are perceptibly enlarged, indurated, or painful; and sometimes the internal, or both."—*Denman's Introduction*, p. 506.

"In several instances suppuration has taken place; mortification has also happened. Amputation has been required on account of the sequelæ."—*Burns' Midwifery*, p. 609.

"In one individual only has suppuration of the glands taken place in the vicinity of the femoral vein; but in several, by an extension of the inflammation, the inguinal glands have become indurated and enlarged."—*Lee, on Diseases of Women*, p. 118.

‡ "Either or both the legs may be affected together or successively. When the latter is the case, the disease having remained for a certain time in one leg, and the symptoms being abated, the other has been suddenly and unexpectedly seized. Then the symptoms have occurred with equal violence, and gone through a similar course. But the patient having escaped the danger before apprehended, though disconcerted, bears the second attack, even if it be more severe, better than she did the first."—*Denman's Introduction*, p. 507.

"Most of my patients have had both legs affected, though not at the same time; but after going through the progress he (Dr. Wyer) describes in one, the other becomes affected; and unless prevented by the application of blisters, goes through the same stages, and takes the same time as the first."—*Mr. Sankey's Paper in Edin. Med. and Surg. Journal*, vol. x. p. 102.

The constitution, as might be expected, suffers considerably during the attack; the pulse becomes quick (100 to 140) though weak, the tongue white and coated, the thirst considerable, the countenance pale, the appetite is lost, the bowels deranged, the urine turbid. The patient is restless, and generally sleepless.*

The internal genitals are tender, and the lochia sometimes diminished, or offensive, but more frequently unaltered.

Of course, these symptoms will vary in intensity, according to the violence of the attack, and the extent to which the uterine veins are involved; and when the acute stage is over, (in ten days or a fortnight,) the constitutional disturbance subsides, and the affection becomes local and chronic.

"The constitution seems to be very much disturbed and enfeebled at the beginning of the disease, and unequal to the due performance of its common functions; yet after a certain time it seems to become local, for the patients recover their health, and often menstruate regularly; but even this discharge has seldom afforded the expected relief to the affected limb."†

704. *Terminations.*—1. It may terminate in *resolution*—the symptoms altogether subsiding—the effusion disappearing—and the patient recovering the use of her limbs.

2. The subsidence may be more *gradual*, the limb continuing swollen for months, and the patient being unable to use it freely.

In these cases there may be some thickening of the cellular tissue, and sometimes the veins remain varicose.

"In one case, after the swelling had subsided several months, large clusters of dilated superficial veins were seen proceeding from the foot, along the leg and thigh, to the trunk; and numerous veins, as large as a finger, were observed over the lower part of the abdominal parietes."‡

3. As already stated, *suppuration* may take place, even to a great extent, so as to change the character of the disease, and even to threaten danger from exhaustion.

* "The pulse, at first perhaps only 80, soon becomes very frequent, being often 140 in the minute, and generally is small and feeble, but sharp; the tongue is white and moist; the countenance has a pale chlorotic appearance; the thirst is considerable; the appetite is lost, the bowels are either bound, and the stools clay colored, or they are loose, and the stools very fœtid and bilious. The urine is muddy; the lochial discharge sometimes stops, or becomes fœtid; in other cases it is not at all affected. The nights are spent without sleep, and the patient perspires profusely. All the parts within the pelvis are tender, and the os uteri is open, but more painful when touched than the sides of the vagina, or the internal muscles."—*Burns' Midwifery*, p. 608.

† Denman's Introduction, p. 508.

‡ Lee, on Diseases of Women, p. 119.

4. *Death* may occur, either suddenly—perhaps as the patient raises herself in bed,—or more gradually, from the secondary diseases consequent on phlebitis.

"This is not generally a fatal disease, but it is tedious, and often accompanied with hectic symptoms. Death, however, may be caused by suppuration or gangrene; or by exhaustion, proceeding from the violence of the constitutional disease; or by exertion made by the patient, which has sometimes suddenly proved fatal. Or, after the leg appears to be getting better, daily shivering, with vomiting, pain in other parts, and rapid pulse, with delirium, precede death."*

705. *Morbid Anatomy.*—1. On opening the limb, it is found to be distended by serum effused into the cellular membrane.†

2. The vein is obliterated by clots of blood firmly adherent to its parietes, which are thickened; its inner membrane is of a deep red color--the result, either of staining from the clots, or of inflammation.

A membrane of coagulable lymph may be found instead of the clot, lining different vessels. The veins may contain purulent matter.

The vessels which have been noticed as participating in these changes are the femoral, the external, internal, and common iliacs of either side, the epigastric, spermatic, circumflexa ilii, the uterine, vaginal and saphena veins, and the vena cava.

Pus is also met with in the absorbents, and evidences of inflammation. The nerves are also inflamed in some cases.‡

A series of small abscesses are found in the substance of the limb - or a single one of large size.

Traces of secondary disease are discovered in the different cavities, joints, &c.

706. *Prognosis.*— Though we cannot say that the disease is without danger altogether, when severe, yet the proportion of deaths is so small, that in the great majority of even severe cases, our prognosis may be favourable; still more decidedly when the attack is slight. The danger, I think, may generally be estimated by the amount of uterine disease. I have also remarked that the severity of the constitutional symptoms is often inversely as the swelling of the limb.

707. *Diagnosis.*—The characteristic marks of the disease are, the time of its occurrence—after delivery; the uterine symptoms preced-

* Burns' Midwifery, p. 609.

† "Inflammation of the lymphatics has been ascertained in a considerable number of cases of phlegmasia alba dolens. But this lesion, when it exists, acts a secondary part only in the production of the phenomena."—*Bouillaud, Dict. de Med. et de Chir. Prat. Art. Phlegmasia Alba Dolens.*

‡ "M. Duges has recently proved that 'nevritis' does really form one of the numerous lesions of this 'complex malady.'"—*Bouillaud, Dict. de Med. et de Chir. Prat. Art Phlegmasia Alba Dolens.*

ing—the pain down the thigh and leg—the swelling; but especially the painful, hard, cord-like femoral vein.

When the greater part of these symptoms is present, there can be no doubt of the nature of the disease.

708. *Treatment.*—The condition of the patient after confinement will of necessity somewhat modify the activity of the treatment.

Generally speaking, venesection will not be required; but if the patient be of a plethoric habit, if she have in some degree recovered her confinement, and if the disease set in with great violence, it may be advisable.

Leeches, in numbers proportioned to the severity of the attack, should be applied along the course of the femoral vein, to the groins, or to the calf of the leg, and a poultice applied when they fall off.* If decided relief be not obtained, they may be repeated in smaller numbers, once, twice, or thrice.

As the bowels are almost always in some degree disordered, appropriate remedies must be tried. If diarrhœa be not present, purgatives may be given, and we are advised to prefer the saline.† I have seen much benefit result from small doses of tartar emetic given along with the cathartic, during the acute stage. Saline effervescing draughts may also be given.

Different statements have been made as to the effect of blisters; some regarding them as specifics,‡ and others, as Dewees, &c., altogether rejecting them as mischievous. My own experience does not confirm

* "The application of leeches to the groin, and of cold to the limb, and the repeated use of laxatives and diaphoretics, removed the complaint in the course of a fortnight. The reduction of the swelled limb was aided by a gentle friction after the pain and tenderness had gone off.—*Dr. Bateman's Report of the Carey-street Dispensary, in Edin. Journ.* vol. iii. p. 128.

† "In aid of bloodletting, we employ purging to a liberal extent during the continuance of the active stage of the disease; and for this purpose we prefer the saline cathartics—especially when combined with an equal weight of calcined magnesia."—*Dewees, Diseases of Females*, p. 492.

‡ "What I consider a specific is a blister applied to the calf of the leg, immediately on discovering the complaint. The first I apply to the calf of the leg, as the pain is generally most severe in that part, and there is less fear of its not healing than if applied lower. If required, I repeat them every two or three days, not at the same place, but higher or lower, according to the seat of the pain.'—*Mr. Sankey's Paper in Edinb. Journal*, vol. x. p. 402.

See also Dr. Wyer's paper in Lond. Med. and Phys. Journal, No. 134; and Ed. Med. and Surg. Journal, vol. xv. p. 156.

Dr. Dewees' opinion. Turpentine fomentations are sometimes decidedly useful.

When the pain is severe, or the patient irritable, restless, and sleepless, opiates will be necessary.*

The diet should be bland, and chiefly farinaceous.

When by these means the acute stage has been terminated, and the constitutional symptoms relieved, we may change our local and general treatment. Gentle support may be afforded to the limb by a light flannel bandage, and slightly stimulating friction employed. In this stage, the frequent application of small blisters has been especially recommended.†

Tonics may also be given—bark, or quinine and sulphuric acid, will be found the most serviceable.‡

The diet may be improved—meat may be allowed, and a moderate portion of malt liquor, or wine.

If at any time the lochia should be offensive, vaginal injections of tepid milk and water, twice a day, should be employed.

After some time, air and slight exercise, with sea-bathing, will be found to conduce to the perfect restoration of the patient.

* "Opiates are also to be given, to abate and soothe the general irritability of the habit; and together with these, such medicines as promote the secretion by the skin and the kidneys."—*Denman's Introduction*, p. 509.

† "Then, also, but not sooner, it is necessary and proper to support the swelled limb by a slight flannel bandage, drawn gradually tighter, and to use different applications, such as the volatile liniment, or one composed of three parts liniment: saponis, and one part of tinct. cantharid. and sometimes small quantities of the ung. hydrargyri. The frequent application of small blisters to different parts of the limb has been also then strongly advised, and in many cases with evident advantage. Electricity has been tried; but of its real benefits I am not competent to judge. Certainly, many patients have been much relieved by persevering in the use of warm sea-bathing; and they are to be encouraged, but with some caution, to use exercise."—*Denman's Introduction*, p. 510.

‡ "At first we may use saline draughts, but these are not to be often repeated, and must not be given so as to produce much perspiration. In a short time they should be exchanged for bark, sulphuric acid, and opiates, which tend to diminish the irritability. In the last stage we give a moderate quantity of wine. When the pain shifts like rheumatism, bark and small doses of calomel are useful. In every stage the bowels should be kept regular. If the uterine discharge be fœtid, it is proper to inject tepid water, or infusion of camomile flowers, into the vagina."—*Burns' Midwifery*.

CHAPTER XI.

PUERPERAL MANIA.

709. Females may suffer from an attack of mania, during gestation, during labor, or after parturition. The two latter cases will occupy our attention in this chapter. The temporary delirium, or mania, which occurs during labor, was, I believe, first recorded by my friend, Dr. Montgomery. It appears at two particular periods of the labor— first, as the head passes through the os uteri, and again, at its exit through the os externum. It would appear to be owing to the extreme suffering at these times, acting upon an irritable and nervous temperament. It is very temporary, generally lasting but a few minutes, and then subsiding.

The most curious point about it is, that the patient is generally conscious of her incoherence.

"It comes on suddenly during perfectly natural labor, and most frequently at that particular stage of the process which I have pointed out (dilation of the os uteri.) It is not accompanied nor followed by any other unpleasant or suspicious symptom; it occurs perhaps immediately after the patient has been talking cheerfully, and having lasted a few minutes, disappears, leaving her perfectly clear and collected, and returns no more, even though the subsequent part of the labor should be slower and more painful. In every instance which come under my observation, the patients were conscious that they had been wandering, and occasionally apologized for any thing wrong they might have said, although they were not aware of what the exact nature of their observations might have been."*

I have seen several cases of this kind, and, without exception, they corresponded very accurately with this description of Dr. Montgomery's. In one case the delirium, which occurred first during the dilatation of the os uteri, returned as the head was passing through the os externum; and this patient informed me that she was conscious of talking nonsense, and had in vain endeavoured to resist it. Dr. Montgomery attributes this momentary incoherence to the suffering attendant upon the forcible distension and dilatation of the cervix, and there can be no doubt, I think, that this is the true explanation.

710. I shall now proceed to the consideration of *puerperal mania*, or that form of insanity which occurs in childbed soon after delivery, or at the commencement of suckling.

It is a very distressing malady in itself, but doubly so from occurring at a moment ordinarily so joyful; and yet we cannot be surprised at

* Dr. Montgomery's Essay, Dublin Journal, vol. v. p. 61.

the susceptibility manifested at this particular time, when we remember that "the sexual system in women is a set of organs which are in action only during half the natural life of the individual, and even during this half they are in action only at intervals. During these intervals of action they diffuse an unusual excitement throughout the nervous system: witness the hysteric affections of puberty, the nervous susceptibility which occurs during every menstrual period, the nervous affections of breeding, and the nervous susceptibility of lying-in women."*

Attacks of puerperal insanity are not infrequent. Esquirol states that of 600 women in La Salpétriere, fifty-two were of this kind; and of 1119 cases admitted in four years, ninety-two were cases of puerperal mania. He found it even more frequent in proportion among the higher ranks, for out of 144 cases of mental derangement in females of opulent families, the attack came on during childbed or lactation in twenty-one.

Dr. Haslam states, that of 1644 females in Bethlem Hospital, eighty-four were cases of this kind; and Dr. Rush mentions five cases out of seventy at the Philadelphia Lunatic Asylum.

The attack may, in some few cases, be a continuance or a further development of the nervous affections of pregnancy; the nearer the approach to mental derangement during this period, the greater the probability of an attack after delivery.

711. There are two periods, however, at which patients seem especially obnoxious to it—1st, immediately after delivery, to which the term *paraphrosyne puerperarum* has been given; and 2ndly, about the fourth or fifth day, when the full secretion of milk is established, and then it has been termed *mania lactea*. Dr. Burrowes adds a third period, about the fourteenth or fifteenth day, and he then attributes it to the effect of cold in checking the secretion of the milk.

I find that of Esquirol's cases, sixteen became delirious from the first to the fourth day; twenty-one from the first to the fifteenth day; seventeen from the sixteenth to the sixtieth day; nineteen from the sixtieth day to the twelfth month; and nineteen after forced or voluntary weaning.

Of Dr. Burrowes' cases, in thirty-three the access was before the fourteenth day; in eleven, after the fourteenth, and before the twenty-eighth day.

712. *Symptoms.*—The premonitory symptoms vary a good deal. In one sense hereditary predisposition, or the nervous affections of gestation are premonitory, but in most cases we shall generally find, previously to an attack, a degree of exhaustion, conjoined with great excitability, headach, and want of sleep: or the attack may accompany or follow convulsions, as I have seen in more than one case. Dr. Haslam remarks:

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* Gooch on the more important Diseases of Women, &c., p. 127.

"The first symptoms of the approach of this disease after delivery are, want of sleep, the countenance becomes flushed, a constrictive pain is often felt in the head, the eyes assume a morbid lustre, and wildly glance at objects in rapid succession; the milk is afterwards secreted in less quantity, and when the mind becomes more violently disordered it is totally suppressed."

Writers speak of various species of puerperal insanity, principally of two, however,—those cases in which the form is melancholia or mania, and those in which phrenitis or inflammation of the membranes of the brain exists; the former is the true puerperal mania, and may be distinguished into two varieties,—those where fever is present, and those in which it is absent.

"Mania," says Dr. William Hunter, "it not an uncommon appearance in the course of the month, but of that species from which they generally recover. *When out of their senses, attended with fever, like paraphrenitis, they will, in all probability, die*; but when without fever, it is not fatal, though it (i. e. the fever) generally takes place before they get well. I have had several private patients, and have been called in where a great number of stimulating medicines and blisters have been administered; but they have gone on at another time talking nonsense until the disease has gone off, and they have become sensible. It is a species of madness they generally recover from, but I know of nothing of any singular service in it." "Putting together," says Dr. Gooch, "this statement of Dr. Hunter with my own experience, I extract from it the following meaning: that there are two forms of puerperal mania, the one attended by fever, or at least—the most important part of it—a rapid pulse; the other accompanied by a very moderate disturbance of the circulation; that the latter cases, which are very far the most numerous, recover; that the former generally die. This agrees closely with my own experience."

Dr. Burrowes states that he has not seen any case attended with fever, "except when coincident with the first secretion of milk, or where inflammation of the breasts or other parts has occurred, or upon forced weaning, where there has been abundance of milk." But this is far from being generally true. I saw two cases last year in which mania occurred before the secretion of milk, and yet the pulse was very quick, and the skin hot, with thirst, loaded tongue, &c.

In the one variety we find the attack preceded by wakefulness, excitability, headach, and after a while the mind is evidently astray; the patient may be joyous or melancholy, singing and talking incessantly, or obstinately silent, suspicious of every one, fancying injuries and offences on the part of her husband or friends, and forgetful of her child.

The heat of the body may be slightly increased; that of the head is generally so, with a partial pain and sense of pressure or tightness, throbbing in the temples, and noises in the ears. The skin is generally relaxed and moist, but discoloured; the face pale, the tongue whitish and loaded; the abdomen soft, and usually free from tender-

ness; the pulse weak and quiet; there is little if any sleep, and but little thirst; the bowels are torpid, and the stools unhealthy, often offensive.

In other cases we find the skin hotter, the pulse quick and small, the face often pale, sometimes flushed, the eyes red and vivid, and a delirium more resembling that of fever, with a brownish dry tongue, and sordes about the teeth.

Dr. Burrowes has described an attack of puerperal mania, somewhat different from the above, and resembling them "In every instance, this variety has come on before the fourteenth day from delivery; it is preceded by pervigilium; the ideas are at first rapid and confused; images like those of dreams appear, and the delirium is soon confirmed by these illusions being considered as realities, and the speech and actions corresponding with these impressions. The muscular powers are rarely violently exerted, though the patient frequently attempts getting out of bed, without any fixed object; on the contrary, she she generally lies supine; the countenance is rather vacant; the eyes are half-closed, or fixed on vacuity, and, when roused, follow some imaginary object; the tunica conjunctiva is often highly injected, and the pupils very little sensible to light; the head is hot; the skin soft and relaxed, and partial sweating about the throat and neck. She continually mutters incoherently; loses consciousness, except when suddenly or strongly urged; if spoken to, answers shortly, and perhaps rationally, but lapses directly into the former state of indifference; the pulse is quick and uncertain; bowels generally easily moved; lochia and secretion of milk suspended. About the fourth or fifth day the debility is greater; there is more coma; the pulse is quicker, smaller, and more unequal, with slight subsultus; picking at surrounding objects, or the bed-clothes; averse from food or drink; insensible of evacuations; the tongue throughout presents nearly a natural appearance, though sometimes tremulous when protruded. It is usually fatal by the seventh or eighth day; and if the patient survive, chronic insanity commonly supervenes, and melancholia oftener than mania."*

That active inflammation of the brain or its membranes may occur during childbed is beyond question, but as it is very rare, and does not strictly belong to the question of puerperal mania, I shall not at present enter upon its consideration.

Thus, then, we may have an attack of mania supervening upon delivery, or occurring about the fourth or fourteenth day, with or without precursory symptoms; in two varieties the main distinction appears to be in the pulse,—in one it is quick, in the other natural; the third variety resembles low fever. There are seldom any signs to indicate disease of the uterus *at the time*, except that in all, the lochia and milk are diminished or suppressed. In all the varieties, the stomach

Commentaries on Insanity, p. 371.

and bowels are much disordered. The character of the mania is not in any way peculiar to childbed.

713. The *progress*, *duration*, and *termination* of the attack vary a good deal in different patients. Dr. Burrowes observes, that sometimes the slighter attacks which occur immediately after delivery will disappear under the operation of a smart purgative, and an opiate.

Of the ninety-two cases given by Esquirol, fifty-five recovered: four recovered in the first month, seven in the second, six in the third, seven in the fourth, five in the fifth, nine in the sixth, fifteen between the sixth and twenty-fourth, two after two years. Of these, thirty-eight recovered in the first six months. Of thirty-seven cases given by Dr. Burrowes, thirty-five recovered: nine recovered in the first month, five recovered in the second, five in the third, three in the fourth, two in the fifth, four in the sixth, one in the seventh, two in the eighth, one in the ninth, one in the twelfth, one in the fourteenth, and one in the twenty-fourth month. That is, twenty-eight recovered in the first six months. Of eighty cases by Dr. Haslam, fifty recovered.

But it may continue much longer; of the cases described by Esquirol, six died: one six months after delivery, one in a year, two after eighteen months, one in three years, and one in five years. In Dr. Burrowes' table, it is stated one recovered after two years, one after three years, two after four years, and one after six, and one after seven years; but he states that he never met with one permanently fatuous from puerperal insanity.

Of Esquirol's ninety-two cases, six died, or one in fifteen. Of Dr. Haslam's eighty cases, fifty recovered. Of Dr. Burrowes' fifty-seven cases, ten died, or one in six: "seven within twelve days of the access of delirium, two within seven weeks, and one after four months. Two of them had active uterine disease, and two others died of relapses after they had recovered from puerperal mania."

Thus we find that the number of cases that recover is very considerable: out of 229, 146 recovered, or more than one-half. Of ninety of those who recovered, sixty-six were cured within six months, and the remainder at irregular intervals up to two years. Some we find continued insane much longer, remaining so for four, five, six, and seven years.

But, on the other hand, a large proportion of deaths has sometimes occurred: one in fifteen at La Salpetrière, and one in six among Dr. Burrowes' cases.

I do not think, however, that any statistics from a lunatic asylum can be taken as a correct standard of the mortality in puerperal mania, for patients are not sent there until the disease is more or less chronic; now a great number of those who recover do so within a short time after confinement, as in two cases I witnessed lately, both of which recovered from the delirium within ten days. Among the better classes, a patient would not be placed in an asylum until she had recovered from her confinement, and until the ordinary treatment had failed. On

the other hand, death occurs in many cases within the month after childbed. "Mania, says Dr. Gooch, "soon after delivery, is more dangerous to life than melancholia beginning several months afterwards."

Dr. Gooch states that none of his patients with a slow or moderately excited pulse died, whereas in the fatal cases the pulse was very rapid, though some with a rapid pulse recovered. In the two cases I have referred to, the pulse was very rapid, yet both recovered.

"Nights passed in sleep, a pulse slower and firmer, even though the mind continue disordered, promise safety to life. On the contrary, incessant sleeplessness, a quick, weak, fluttering pulse, and all the symptoms of increasing exhaustion, portend a fatal termination, even though the condition of mind may be apparently improved. In the cases which I have seen terminate fatally, the patient has died with symptoms of exhaustion, not with those of oppressed brain, excepting only one case."*

714. *Causes.*—I shall now consider the *causes* of this distressing malady. There seems little doubt that in many cases (Dr. Burrowes says in half the number, or possibly more, and Dr. Gooch bears the same testimony) the predisposition is hereditary, and of course mental deviations during gestation render an attack of puerperal mania extremely probable. Sleeplessness, which so fearfully increases nervous irritability, seems a very general predisposing cause.

Among the exciting causes we find cold, irritation, irregularities of diet, distress of mind, sudden mental shocks, frights, disordered bowels, excessive secretion of milk, and constitutional irritation thence arising, &c.; or the attack may form a part of or follow convulsions, as in a case which came under my care not long since.

Great stress is laid upon moral causes by the French writers. Esquirol, as I have before mentioned, states their frequency, compared with the physical, as four to one; and Georget mentions that out of seventeen cases, there were but two not proceeding from a direct moral cause. During the invasion of France in 1814-15, eleven out of fourteen cases were from terror. British writers do not attribute so large an influence to this cause.

As to the *proximate cause* or *pathology*, it is not very easy to speak positively. I may allude to four different views on the subject: 1. From its occurring in many cases immediately after delivery, some have attributed it to disease of the uterine system. Fabret mentions a case of cancer which excited mania. Dr. Briere has related a case of mania from inflammation of the womb. Dr. Cooke discovered disease of the womb in two cases of puerperal mania. Dr. Burrowes mentions having seen abortion and mania, the result of inflammation of the womb, in two cases in which he was consulted; one died, and the

* Gooch on Diseases of Women, p. 124.

other recovered; and in two of the deaths in his table there was disease of the uterus, but whether it preceded the mania or not does not appear. In one of the species of puerperal mania described by Dr. Burns, he says, "the delirium is connected with the state of the uterus, particularly of the veins which are inflamed."*

At a meeting of the Obstetrical Society of Dublin, Dr. Montgomery mentioned a case of puerperal mania in which the uterus and ovaries were found in a state of inflammation; and Dr. Hardy another, in which peritonitis existed, but was not suspected till after death. I have certainly seen uterine inflammation follow puerperal mania, but that it existed previously I cannot say: the usual symptoms were absent.

Still these cases, which are all I have been able to make out, form so very small a proportion to the cases in which there has been no isease of the womb, that without denying the condition of the uterine system is in some way connected with puerperal mania, it is clear we cannot attribute it solely to organic disease of that organ.

2. Other writers regard the disease as inflammation of the brain or its membranes. Now it is granted, of course, that such cases do occur, but they are rare; and it is contended that in ordinary cases puerperal mania does not arise from inflammation, and the results of *post mortem* examination are in favour of the latter opinion. Burns, Campbell, Davis, Lee, and others, speak of it as a modification of phrenitis; Burrowes, Pritchard, Gooch, &c., as not being inflammatory. The latter distinguished observer thus gives the result of his experience "In No. 1, the disease occurred in a pale lady, without any heat of skin, or much quickness of pulse, and was not relieved by loss of blood. In No. 3, it occurred in one whose constitution was drained and enfeebled by nursing. In No. 4, it occurred in a pale woman, habitually hysterical, subject to bear dead children, from want of power to afford them life for nine months. In No. 5, it occurred in one in whom, for urgent reasons, the circulation had been reduced to the lowest ebb consistent with life. In No. 7, in one who had been living very low for a week, with such marked symptoms of the irritation of debility, that at first sight I thought it was the close of some disease that had been overlooked. It was speedily relieved, not by cupping and purging, but by the tranquillizing and sustaining power of opium. In No. 8, the disease was treated, though with all possible prudence and moderation, as an inflammatory state of the brain, by leeches, cupping, purging, and low diet; yet the patient died, not with symptoms of oppressed brain, but with those of exhaustion; and on examining the body, the whole venous system was found extraordinarily empty of blood. In No. 10, the patient fell as if shot, under the stroke of the lancet; and on examining the head, there was found no effusion, and empty blood-vessels. In No. 11, the disease came on after puerperal convulsions (a

* Midwifery, p. 619.

disease generally, but not always, depending on cerebral congestion), and after one of those enormous bleedings commonly practised in these cases, and no morbid appearances were discovered after death, in the brain. These cases, if fair specimens of puerperal insanity, lead straight to the conclusion that the disease is not one of congestion or inflammation, but one of excitement without power."*

Add to this, that Esquirol found no traces of cerebral inflammation upon most careful examination.

3. Dr. Marshall Hall believes that the disease "results, in general, from all the circumstances following parturition combined, but chiefly from the united influences of intestinal irritation and loss of blood." "I am persuaded," he adds, "that real puerperal phrenitis is comparatively a rare disease, that puerperal mania is seldom of an inflammatory character, and that it is especially to be treated by those measures which are suited to the mixed case of intestinal irritation and exhaustion."† That many cases occur in patients exhausted from some cause, the extract I have given from Dr. Gooch will prove, and that the stomach and bowels are disordered in most cases is recorded by almost all writers, so that we cannot deny that Dr. M. Hall's view has much to support it. Nevertheless, it does not seem to express the whole truth, nor is the want easily supplied with any degree of precision.

4. The explanation of Dr. Gooch, which I have already quoted, as to the peculiar nervous susceptibility induced by the organic changes consequent on impregnation and child-bearing, although I believe it to be correct, is necessarily vague; nor is the view of Dr. Ferriar more accurate. He says: "I am inclined to consider puerperal mania as a case of conversion. During gestation and after delivery, when the milk begins to flow, the balance of the circulation is so greatly disturbed as to be liable to much disorder from the application of any exciting cause. If, therefore, cold affecting the head, violent noises, want of sleep, or uneasy thoughts, distress a puerperal patient before the determination of blood to the breasts is regularly made, the impetus may be converted to the head, and produce either hysteria or insanity, according to its force or the exciting cause."

Perhaps it is best simply to enumerate shortly the elements which may concur to produce the attack. We have the nervous shock varying in degree, but always increasing the nervous irritability; the great vascular change; the disturbance of respiration and circulation; the exhaustion; and in many cases the loss of blood; this combination must necessarily leave the nervous system in a favourable state for the operation of the exciting causes I have enumerated, and the result is mania.

715. *Treatment.*—The treatment of puerperal mania is very simple as regards the materials, yet requiring calmness and judgment in their application.

* On Diseases of Women, p. 144. † On Diseases of Females, p. 251

1. Those who regard it as any modification of phrenitis, of course recommend blood-letting, with more or less liberality. Now, from what I have said as to the nature of the disease, it will be clear that for these cases it is inadmissible, or, if ever used, it must be with extraordinary caution, and by means of leeches, in cases where there is strength and quickness of pulse, and flushing of the head and face. I have, however, never found it advisable; and Esquirol, Haslam, Gooch, Burrowes, and Pritchard, are all opposed to it. The last-named author remarks: "If we consider that the greatest danger to be apprehended for patients labouring under puerperal madness arises from a state of extreme exhaustion, that many women die from this cause within a short interval from the commencement of the disease, and that, if they survive this period, the healthy state of the mind is in most instances restored, it will be evident that our chief endeavours must be directed to the present support of life." "Blood-letting, as a general remedy for puerperal madness, is condemned by all practical writers on whose judgment much reliance ought to be placed."*

2. When the stomach is overloaded, when indigestible food has been taken, or even for the purpose of lowering the pulse by the shock of vomiting, emetics have been found useful. They must, however, be used with caution when the face is pale, the skin cold, and the pulse quick and weak. Dr. Gooch prefers ipecacuanha to antimonials. Dr. Burrowes recommends nauseating doses of tartar emetic, with the saline mixture and digitalis, for the purpose of reducing the violence and fury of the patient; and Dr. Beatty informs me that he has derived great advantage from tartar emetic.

3. From the almost universally disordered state of the bowels, great relief is afforded by one or two brisk purgatives of calomel, followed by castor oil or Gregory's Powder. The stools are dark-coloured, and highly offensive; and in addition to the advantage of clearing out the bowels, purgatives act admirably as derivatives from the head.

4. After the bowels have been freed, the greatest benefit will be derived from narcotics. Denman prefers small and repeated doses of opiates, but Gooch, Burrowes, and Pritchard recommend full doses, and with this I concur: ten grains of Dover's Powder, twelve drops of black drop, or an equivalent of the other preparations of opium. If opium disagrees, hyoscyamus may be given; and should sleep be induced, repeated small doses may be administered; when the head is very hot, and face flushed, we should postpone the exhibition of opium, and we must guard against constipation.

5. The head may be shaved, and a cold lotion applied; if the delirium continue, a blister may be applied, but it is not generally necessary.

* On Insanity, p. 313.

6. In protracted cases, or when the patient is exhausted, nourishing diet, broths, &c., and even tonics, must be allowed; ammonia, with cinchona; oil of turpentine, &c.

7. As uterine inflammation not uncommonly arises in the course of or follows puerperal mania, a close watch should be kept for the earliest symptoms, and if they appear, calomel in small and repeated doses, or mercurial innnction, should be added to the other remedies, with such other local applications as may be deemed advisable.

8. It will be necessary to keep the most careful watch upon the patient; the nurse, who ought, if possible, to be one familiar with such attacks, should never leave the room; friends ought to be absolutely refused admission; the apartment kept slightly darkened, and the entire house perfectly quiet.

9. When the mania disappears, and the patient is convalescent, a change of air and scene is most advisable.

CHAPTER XII

EPHEMERAL FEVER, OR WEID.

716. This is a short attack of fever, to which females are especially liable during the early part of their convalescence, though it may occur at a later period.

Females of sensitive constitutions are the most obnoxious to it.

717. *Causes.*—The most frequent cause is the impression of cold, perhaps on rising from bed, or changing the room, &c.

Indigestion, or irregularity of the bowels, may also give rise to it. Fatigue, mental agitation, and want of rest, are also enumerated among the exciting causes.

718. *Symptoms.*—The attack commences by general uneasiness, palpitation, and shivering,* with headache, pain in the back and limbs, soreness of the breasts, thirst, rapid and sometimes irregular pulse, &c.

* "On or before the approach of the disease, the patient is observed to yawn and stretch herself greatly, and to appear very languid. To this succeeds a sensation of cold, first between the shoulders, and thereafter along the spine; and at last it becomes general over the whole body, attended with pain in the head and large joints. Sometimes a sense of soreness is felt in the uterine region, and if the lochial discharge be present, both it and the milk are diminished in quality."
—*Campbell's Midwifery*, p. 341.

To this succeeds a well marked hot stage, with flushed face, throbbing temples, pain over the eyes, rapid full pulse, pain of the breasts, soreness of the abdomen, &c., and it terminates in a profuse sweat, which removes the fever, and relieves the other symptoms.

The tongue is coated, the stomach is often disturbed, and the bowels confined.

During the paroxysm, the fever often runs very high, and the distress is proportionally great. Occasionally the mind is confused and distressed; and in some cases the patient is delirious.

For the time, the secretion of milk is diminished or suspended, and the lochia also; but they return after the paroxysm.

The fit is generally completed in twenty-four hours, always in forty-eight; and if properly treated, it seldom returns. If neglected, however, it may assume the form of an intermitting, or continued fever.*

Unless it assume this character, it is of very little consequence, and very easily managed.

719. *Diagnosis.*†—From the violence with which it commences, it may easily be mistaken for puerperal fever; but the cessation of the paroxysm after some hours, and the absence of marked abdominal tenderness, will generally enable us to distinguish it. Indeed, the peculiar violence with which it commences is itself more characteristic of weid than of puerperal.

720. *Treatment.*—During the cold stages, hot bottles and warm bed-clothes may be applied, so as to relieve the distress. Warm drinks and cordials may also be given.

During the hot stage, a comfortable quantity of clothing must be continued, and diaphoretics given, so as to favor perspiration; and during the sweating stage, we must guard against cold, and diminish the clothing very gradually.

As for purgative medicines, which are necessary, I have found the combination of salts, senna, and tartar emetic the most useful; but any other purgative may answer the purpose. If the tongue be foul, and the stomach loaded, an emetic may be advisable.

Very rarely will it be necessary to take away blood, and then only

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* It consists of a cold, hot, and a sweating stage; but if care be not taken, the paroxysm is apt to return, and we have either a distinct intermitting fever established, or sometimes, from the co-operation of additional causes, a continued and very troublesome fever is produced." —*Burns' Midwifery*, p. 572.

† "The suddenness of the attack, the great irregularity of the pulse, the absence of all local pain except that of the head, the intensity and irregularity of the succession of the different stages, will distinguish this from every other puerperal affection."—*Campbell's Midwifery*, p. 341.

if there be much local pain. A few leeches to the head, or to the breasts if they be painful, may be of use; but in the majority of cases they are unnecessary.

We should carefully examine the state of the uterine system, as irritation may otherwise go on unsuspected, and be the cause of much subsequent distress.

The diet may be nutritious after the paroxysm is over, and even mild tonics may be given, if necessary. Dr. Campbell recommends five-grain doses of camphor, four or five times a day for some days, to allay nervous irritability.*

Great care must be taken, after the fever has terminated, to avoid all occasion of cold, or any cause which may reproduce the attack.

CHAPTER XIII.

MILIARY FEVER.

721. This disease is described by older authors as one of the formidable epidemic diseases of childbed.† It is now rarely met with, except as a trifling affection.

Dr. Bateman and others conceive this difference to arise from the different way in which patients are managed during convalescence.

The disease does occur sometimes, however; but it is "perhaps invariably symptomatic—being connected with some feverish state of the body, previously induced."‡ It may accompany weid, or milk fever, and even some forms of puerperal fever.§

* "In the treatment, we have two indications in view; *first*, to conduct the disease regularly through its stages; and *secondly*, to restore the tone of the system."—*Campbell's Midwifery*, p. 342.

† See White, on Lying-in Women.

‡ Bateman's Synopsis, p. 245.

§ "Miliary eruption also occurs during childbed, as a symptom connected with other puerperal diseases. It often accompanies the milk fever, or the protracted weid, when the perspiration is injudiciously encouraged, and this is by far the most frequent form under which the febris miliaris appears. It never alleviates the symptoms. It may also accompany fevers connected with a morbid state of the peritonæum or brain, which generally prove fatal, death being preceded by vomiting of dark-colored fluid."—*Burns' Midwifery*, p. 579.

It is more frequent in women of weak, debilitated constitutions, and generally occurs between the fifth and twelfth day after delivery.*

722. *Causes.*—It has been attributed to metastasis of the milk, or to putrescency; and to both, doubtless, with equal correctness.

The eruption is merely a symptom accompanying a febrile attack, and depending, probably, upon the excessive secretion of the skin. The qualities of the perspiration may perhaps have something to do with the production of the eruption.†

M. Capuron doubts this connection between the eruption and the perspiration.‡

Dr. Burns thinks that the disease may be occasionally idiopathic.‡

723. *Symptoms.*—In the cases we most frequently see, and which approach the nearest to a distinct disease, the attack commences with langour, sickness, and chilliness, with a hot skin and quick pulse. To this stage succeeds reaction—the patient is oppressed, in low spirits, complaining of a weight at the chest, with a quick pulse, considerable heat of skin, and a great perspiration of an acid odour. The eyes are dull and heavy; there is a ringing in the ears; the tongue is foul, with red edges; the lochia and milk suppressed or diminished, and the skin feels rough. Occasionally apthæ are observed in the fauces.

After these symptoms have continued for a few days, the eruption appears, in form of "minute round vesicles, about the size of millet seeds, surrounded by a slight inflammation or rash." "It appears most abundantly upon the neck—sometimes in irregular patches, and sometimes more generally diffused, and remains on those parts during several days: on the face and extremities it is less copious, and appears

* "Generally relaxation predisposes to miliary fever; hence the reason why it is a frequent sequela of weid. Impure over-heated air, stimuli, and rich food; neglecting the bowels, and personal cleanliness, are frequent exciting causes.—*Campbell's Midwifery*, p. 343.

† "Therefore, as the miliary eruption is never produced without sweat, and as neither the one nor the other can be said to be strictly critical, may we not conclude that the eruption is occasioned by the cuticular secretions being increased by warmth and relaxation, and of course rendered more acrid—so that by lodging upon the skin, and communicating with the external air, they must soon acquire a putrid state, even if the patient had no signs of putrescency before?"—*White, on Lying-in Women*, p. 51.

‡ "Some have considered the eruption as altogether dependent on the perspiration; others consider it as, in many cases, idiopathic; and both, perhaps, at times are right. We can only consider the disease as idiopathic, when the eruption mitigates the symptoms; when the fever goes off, as the pustules arrive at maturity; and there is no other puerperal disease present, acting as an exciting cause."—*Burns' Midwifery*, p. 578.

and disappears several times, without any certain order. The vesicles, on their first rising, being extremely small, and filled with a perfectly transparent lymph, exhibit the red color of the inflamed surface beneath them; but in the course of thirty hours, the lymph often acquires a pearly opacity, and the vesicles assume necessarily a pearly or white appearance."* This has led to the distinction of white and red miliary eruption.

After a few days the vesicles dry up, and the skin desquamates.

The eruption affords no crisis to the fever, and seldom any relief to the symptoms.

If the fever and sweating continue, the patient may have frequent attacks of the eruption.

Some cases of the eruption are met with, when there is little or no fever at all,† and they speedily recover.

The usual form of the disease is neither fatal nor difficult to cure, though we read in authors of malignant epidemics of miliary fever, and undoubted instances of death.‡ But in truth, the fatality lay in the fever, of which the miliary eruption was only an accidental symptom§—

* Bateman's Synopsis of Cutaneous Diseases, p. 246.

† "To what has been said I must beg leave to add my testimony, that I have frequently seen in puerperal women, miliary eruptions, both of the red and white kind, without any fever supervening, and totally unattended with danger; and I have seen all the symptoms of the miliary fever (as they are generally described by authors) except the eruption; and yet the disorder has terminated happily, and in a short time, without that or any other particular crisis."—*White, on Lying-in Women*, p. 39.

‡ "When I began midwifery, a midwife (since dead) had for a long time been in possession of great practice among all ranks of women, and in other respects was tolerably successful; but a remarkable number of women under her care were affected with the miliary fever, which proved *fatal to many—particularly to the wives of several of our principal* tradesmen; and became so alarming and notorious, both in this neighbourhood and in distant parts of the country, as to acquire the name the Manchester fever."—*White, on Lying-in Women*, p. 41.

"A very ingenious physician at Chester informed me that the miliary fever had been generally imagined to be endemic in that city and neighbourhood, for thirty years before he resided there, and had carried off numbers of the inhabitants; that the fever was frequently of a long duration; that he knew one person who recovered, after having successive crops of miliary eruptions for three months. That another physician of the place had informed him that he had a patient who lay ill of the same fever for six months, and died of it at last."—*White, on Lying-in Women*, p. 45.

§ "Although most frequently this eruption is simple and benign,

just as when it has occurred after a surgical operation, or with puerperal peritonitis.

724. *Treatment.**—The proper management of women in childbed will generally prevent the occurrence of these cases altogether.

But if we are called to one of the slight febrile kind I have described, a gentle emetic may arrest its course.

If not, but little medicine will be necessary. The bowels should be freed, and acid drinks (unless counter-indicated) given.

The room should be well cooled and ventilated, and only light bed-clothing allowed.

The diet should be bland and nutritious. The surface may be sponged with tepid water, and the linen frequently changed.

When the febrile access has subsided, bark and diluted sulphuric acid should be given, with a better diet.

If there be apthæ in the mouth and fauces, we may use borax and honey, or acid gargles, until they are removed.

When the miliary eruption is an accompaniment of more serious fevers or local affections, it is the latter to which our attention and treatment is to be directed; and we may be satisfied that in proportion as we succeed in relieving the primary disease, so the secondary affections will disappear.

CHAPTER XIV.

SORE NIPPLES.

725. This is a very frequent and troublesome occurrence, and far more painful than would be supposed. It is more frequent with first children, but some women suffer from it after each confinement. It comes on generally after two or three days' suckling, and continues for an uncertain time, after which it generally subsides.

it may nevertheless be combined with other affections, more or less dangerous, as intestinal disturbance, inflammatory, gastric, bilious, and above all, mucous fever, sometimes with adynamic, or putrid, or ataxic fever, or with inflammation of mucous membranes, as angina, catarrh, &c. It is to these affections that we must refer the miliary fevers observed by authors, especially the species which Levret calls malignant, and which exhibit adynamic or ataxic symptoms."—*Capuron, Mal. des Femmes*, p. 567.

* "In the *first* place, we order the ablution of the body every morn-

726. *Causes.*—In the majority of cases, it is simply the reiterated application of the child which causes it, by removing the sebaceous secretion—so that the skin, when dry, contracts, slightly hardens, and cracks. This process is aggravated by a slight degree of inflammation.

But sore nipples may be owing to the state of the child's mouth, as is frequently seen when the child suffers from apthæ; and on the other hand, the discharge from the nipple may inflame and excoriate the child's mouth.

727. *Symptoms.*—At first the nipple and areola are observed to be dry, rough, and harsh; then a great number of minute cracks may be seen; or the surface becomes excoriated, and pours out a serous discharge, which in some cases is acrid, and spreads the excoriation to the surrounding skin.

Or the nipple may exhibit deeper fissures, dividing it into two or three portions. Lastly, in some cases the nipple becomes ulcerated, and part, or nearly the whole, destroyed. Each attempt at suckling makes the nipples worse for some time, and occasions them to bleed The torture to the patient is very great, and it requires all her fortitude to persist in nursing, at the cost of so much suffering.

But this is not all, for if the inflammation be great, it is often propagated along the lymphatics to the mammary gland, and then gives rise to inflammation and abscess.

728. *Treatment.*—To prevent this disorder, the nipples should be washed with soap and water, and dried, and afterwards bathed with spirit and water, night and morning, during the last month of pregnancy. In many cases this will be successful.

"A combination of white wax and butter is a popular remedy, and is often useful. Stimulating ointment, such as ung. hyd. nit., diluted with axunge, is sometimes of service; or the parts may be touched with burned alum, nitrate of silver, or dusted with some mild dry powder."

When excoriation or "chapping" has occurred, spirit lotions may be applied, or one formed of sulphate of alum, zinc, or copper, acetate of lead, &c., dissolved in rose water; but the one I have found most effectual is a weak solution of nitrate of silver, to be applied after each time of suckling—care being taken to wash the nipple previous to the next application of the child.

Mr. Druitt recommends a solution of five grains of pure tannin in an ounce of distilled water.*

ing with tepid water; *secondly*, we direct the bowels to be regulated by means of compound jalap, or magnesia and rhubarb; *thirdly*, some tonic must be prescribed, as the diluted sulphuric acid, or the sulphate of quinine; and *fourthly*, the apartment to which the patient is confined requires to be freely ventilated, and a load of bed-clothes avoided."—*Campbell's Midwifery*, p. 343.

* Braithwaite's Retrospect, vol. 10.

Dr. Johnson thinks highly of the following lotion and ointment, which may be applied alternately, or either alone:—*

℞ Subborat. Sodæ, ʒii.
Cretæ præcip., ℥ii.
Spt. Vini.
Aquæ Rosæ, āā ℥iii. M. Ft. Lotio.

℞ Ceræ Albæ, ʒivss.
Ol. Amygdal. dulc., ℥i.
Mel. despumat., ℥ss. dissolve ope caloris, dein adde gradatim Bals. Peruvian. ʒiis.
Ft. Ung.

Drs. M'Clintock and Hardy speak highly of tincture of catechu in simple excoriated nipples.

In two cases of ulcerated or fissured nipples, Prof. Simpson drew the edges together, and covered them over with a pretty strong layer of the solution of gun-cotton. This maintained the edges so firmly together, that suckling did not re-open them, and consequently, they soon healed. I have tried it, but with a less successful result.

Various mechanical means have been contrived to cure the disease.

Nipple shields, of wood, ivory, or silver, may be procured, which, intervening between the child's mouth and the nipple, will often relieve the irritation altogether. But in many cases the child cannot draw the milk through them, and then we may have recourse to "calves' teats," properly prepared, or to a piece of chamois leather, shaped and protruded in the form of a nipple, and pierced with many holes.

If any of these plans succeed, the nipple will heal in a few days, and the child may be again applied to it.

Feeding the child two or three times in the day, or giving it to another person to nurse, will facilitate the cure, provided we do not allow the milk to accumulate too much—in which case inflammation may be excited, and terminate in abscess.

In very few cases is it necessary to give up suckling. Even if our remedies fail, the irritation will generally subside in a fortnight or three weeks.

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* M'Clintock and Hardy's Midwifery, p. 14.

CHAPTER XV.

INFLAMMATION AND ABSCESS OF THE BREAST.

729. Females are obnoxious to inflammation of the breast after each pregnancy, and at any period of suckling, but more especially with first children, and during the three first months of nursing.

730. *Causes.*—The irritation and congestion which take place for the secretion of milk, vary in amount. If these be within certain limits, the secretion takes place with slight feverishness for a day or two; the breast becomes hot, tense, and painful, and unless the usual means reduce this extreme irritation, it will run on into inflammation and abscess.* This excessive congestion may be regarded as the most frequent cause of mammary abscess, soon after delivery, and with first children.

Exposure to cold, mental emotion, moving the arms too much at the time the breasts are so much enlarged, are all said to give rise to it.

Inflammation very frequently extends itself from the nipples, along the lymphatics, to the deeper tissues, as already mentioned.

731. *Symptoms.*—The severity of the symptoms will depend upon the depth and extent of the inflammation. When the subcutaneous cellular tissue and the skin alone are involved, there will be some local pain and soreness, with a circumscribed hardness and tension, and a blush of inflammation upon the skin.

But when the fascia, or gland, is involved, the pain is very severe, extending to the axillæ; the swelling considerable, the tension great, and the constitution suffers proportionably. The pulse is quick and full, the skin hot, there are head-ache, thirst, sleeplessness, &c. The skin covering the inflamed part may be of a uniform red, or red in patches. If the gland be inflamed, the breast has a nodulated feel, as if it consisted of several large tumors.†

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* "Some have the breasts prodigiously distended, when the milk first comes, and the hardness extends even to the axillæ. If, in these cases, the nipple be flat, or the milk do not run freely, the fascia, particularly in some habits, rapidly inflames. Others are more prone to have the dense substance, in which the acini and ducts are embedded, or the acini themselves, inflamed."—*Burns' Midwifery*, p. 623.

† "The inflammation may affect the mammary gland itself, or be confined to the skin and surrounding cellular substance. In the latter case, the inflamed part is equally tense; but when the glandular structure of the breast is also affected, the enlargement is irregular, and seems to consist of one or more tumors, situated in the substance of the part. The pain often extends to the axillary glands. The secre-

The secretion of milk is, at least for a while, suspended; but it will take place after the acute stage has somewhat subsided.

After the inflammation has continued some time, suppuration takes place, and the matter makes its way to the surface. This occurrence is marked by shivering, followed by heat and perspiration, and a sense of fluctuation in the tumor, which is prominent and smooth.* The pointing is generally in the neighbourhood of the nipple.† By degrees the intervening substance is absorbed, and the cuticle giving way, the matter is evacuated.

The matter of superficial abscesses is simple, or, as it is called, "laudable" pus; but when the abscess is more extensive, sloughs of cellular tissue and fascia are discharged.

In a healthy person, when the matter has been completely evacuated, the abscess soon heals up, leaving only a degree of hardness for some time.

Such is the general course of the disease; but there are some important variations. "It sometimes happens," says Dr. Burns, "if the constitution be scrofulous, the mind much harassed, or the treatment at first not vigilant, that a very protracted and even fatal disease may result. The patient has repeated and almost daily shivering fits, followed by heat and perspiration, and accompanied with induration or sinuses in the breasts. She loses her appetite, or is constantly sick. Suppuration slowly forms, and perhaps the abscess bursts; after which the symptoms abate, but are soon renewed, and resist all internal and general remedies. On inspecting the breast, at some point distant from the original opening, a degree of œdema may be discovered—a never-failing sign of deep-seated matter there; and by pressure, fluctuation may be ascertained. This may become distinct very rapidly, and therefore the breast should be carefully examined at least once a day. Poultices bring forward the abscess, but too slowly to save the

tion of milk is not always suppressed when the inflammation is confined to the integuments; and suppuration is said to come on more quickly than in the affections of the mammary gland itself."—*Cooper's Surgical Dictionary*, p. 945.

* "A particular prominence and smoothness are observed at one part of the tumor, with a sense of fluctuation, from the presence of matter. The constitution is also highly irritated, which is evinced by the occurrence of shivering, succeeded by heat and profuse perspiration. Over the most prominent part of the swelling the cuticle separates, ulceration follows in the cutis, and the matter becomes discharged through the aperture thus produced."—*Sir A. Cooper's Illustrations of Diseases of the Breast*, p. 7.

† "The matter is sometimes contained in one cyst or cavity, sometimes in several; but the abscess generally breaks near the nipple."—*Cooper's Surgical Dictionary*, p. 945

strength, and therefore the new abscess, and every sinus which may have already formed or existed, must be at one and the same time freely and completely laid open; and so soon as a new part suppurates, the same operation is to be performed. If this be neglected, numerous sinuses form, slowly discharging fœtid matter, and both breasts are often thus affected. There are daily shiverings, sick fits, and vomiting of bile, or absolute loathing at food; diarrhœa, and either perspiration, or a dry, scaly, or leprous state of the skin; and sometimes the internal glands seem to participate in the disease, as those of the mesentery; or the uterus is affected, and matter is discharged from the vagina. The pulse is frequent, and becomes gradually feebler—till, after a protracted suffering of some months, the patient sinks."*

732. *Treatment.*—The first *indication* is to subdue the inflammation, and so prevent the formation of an abscess. For this purpose, the patient may be bled if the fever run high; or a number of leeches may be applied, and repeated if necessary, followed by a large soft poultice, or fomentations.

When the bleeding has ceased, the poultice or fomentations may be continued;† or an evaporating cold lotion substituted.

The bowels should be briskly purged by saline medicines, and their effect is much increased if tartar emetic, in moderate doses, be joined with them.‡ Indeed, this medicine has a more powerful effect in abating inflammation of the breast than any I have ever tried.

The diet should be bland, and chiefly fluid. The milk should be gently drawn away at intervals, and the breast supported by a sling.

* Burns' Midwifery, p. 625.

† "A convenient and simple mode of applying warmth is to immerse a wooden bowl in hot water, and having wrapped some flannel around the breast, place it in the bowl. By this means an effectual and equable warmth may be kept up for a considerable length of time." —*Earle, London Medical Gazette*, vol. x. p. 153.

‡ "I have been in the habit of combating this affection in a way first communicated to me by my friend the late Mr. Gregory, who employed it with great success in the Coombe Lying-in Hospital. The remedy to which I allude is tartar emetic, whose power of controlling inflammatory affections of the breast would lead one to imagine that it excited a specific action on the mammary gland. On the accession of inflammatory symptoms in the breast, after purging the patient, I administer this medicine in doses of one-sixteenth of a grain, repeated every hour, so as to induce slight nausea. It is never my object to cause free vomiting; and if this should occur, I omit the medicine for an hour or two, and then recommence its use at longer intervals. In ordinary cases, I usually find, after twenty-four hours, that the pain and fever are mitigated, and the breasts are smaller and softer."—*Essay by Dr. Beatty, Dublin Journal*, vol. iv. p. 340.

When we find that our efforts are unavailing to prevent the formation of matter, the second *indication* must be fulfilled. We must facilitate it as much as possible, and by no means can it be done more effectually than by constant poulticing—changing the poultice three or four times a day.

Opium alone, or in combination with salines, should be given, to lessen the pain and induce sleep.

733. There is some difference of opinion as to the propriety of opening the abscess when the matter is detected. My own experience coincides with Cooper's rule:—"Perhaps, as a general rule, the surgeon should never wait for an abscess of the breast to approach the surface, but make an opening as soon as the slightest degree of fluctuation is perceptible; for if this be not done, and the abscess is not very superficial, the matter will spread, and form sinuses in different directions.*

When quite superficial, a longer delay may be allowed; but I am quite satisfied that it is better to open them than to allow them to open spontaneously.

After the matter is discharged, the diet may be improved; and if considerable discharge continue, tonics may be necessary.

The opiate at night may be continued for a short time, and then omitted.

If the abscess be small, the child may suck the affected breast; but if large, it had better be artificially drawn, and the infant confined to the other breast.

In some cases the child must be removed altogether, as the suckling may lead to abscess in the sound breast.

When sinuses form, the only remedy is to lay them all open. It will require care to prevent the patient sinking. Wine, bark, and good diet will be necessary.

* Cooper's Surgical Dictionary, p. 946.

"If the abscess be quick in its progress; if it be placed on the anterior surface of the breast; and if the sufferings which it occasions are not excessively severe, it is best to leave it to its natural course. But if, on the contrary, the abscess in its commencement is very deeply placed—if its progress be tedious—if the local sufferings be excessively severe—if there be a high degree of irritative fever, and the patient suffer from profuse perspiration, and want of rest, much time is saved, and pain avoided, by discharging the matter with a lancet."—*Sir A. Cooper on Disease of the Breast*, p. 10.

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